An Annotated Compendium of Naturally Occurring Plan-Based Misconceptions

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Technical Report No. CS-89-37
October 1989
Revised March 1990

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March 16, 1990

Abstract

This report consists of a large collection of naturally occurring short dialogues that contain plan-based misconceptions. Each example is described in detail, is classified according to the types of misconceptions that it contains, and is extensively cross-referenced and indexed.

*Some of the work described in this paper was done while the author was working at the General Electric R&D Center. Support at Brown University has been provided in part by the National Science Foundation under grants IST 8416034 and IST 8515005 and the Office of Naval Research under grant N00014-88-K-0589.
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1 Introduction

The purpose of this report is twofold. Its most immediate purpose is to provide a source of natural examples for testing a particular theory of plan-based misconceptions developed in [Cal90]. The classification described in Section 1.2, which is used throughout the report, is taken from this thesis.

But more importantly, it is written as a service to future AI researchers. Until now, each researcher has had to locate his or her own set of examples to illustrate a particular theory or to demonstrate a particular program. This has only reinforced the tendency in artificial intelligence for researchers to use a few contrived "toy" examples that they have invented themselves. This makes it difficult to judge how effective their work really is, and to compare their results with those of other systems.

I was put in this same position of having to come up with a set of examples for my research. What I needed was a set of naturally occurring, unbiased examples from a variety of sources that was large enough and diverse enough to adequately test both a theoretical framework and an actual program. Rather than continuously reinventing the wheel, I decided that it was time to begin a standardized corpus that can be made available to other researchers.

While these examples were collected because of the misconceptions that they contain, they can be used by researchers in many other areas as well. Since these are all dialogues between two or more agents, they can be used by people working with natural language and discourse analysis. Most of these examples are of experts helping and correcting novices, so they are appropriate for researchers in user modeling and intelligent tutoring systems. And since these are all examples that actually took place, they can be used by knowledge engineers to discover what sort of knowledge needs to be represented to handle problems in the real world.

1.1 Description of sources

Two of the goals in creating this corpus were to ensure that the examples came from a wide variety of sources, and to ensure that the examples covered a broad range of topics while still being clustered enough to facilitate an in-depth analysis of a manageable subset. I feel that both of these goals have been met in the current collection.

At the most abstract level, about 90% of the examples come from two general subjects: financial matters and computer systems. These cover approximately 20–30 specific topics. Several of these topics, such as calculating taxes on an IRA, investing in money market certificates, and using the Emacs editor, are well clustered and have many related examples.

The sources of the dialogues are also quite varied. There are five major sources for the examples in this corpus:

- Complete transcripts of the USENET newsgroup "misc.taxes" from the period 7/1/88 to 4/30/89. This is a "bulletin board" style medium, where people post messages over a computer network to ask questions or to respond to other messages. This particular newsgroup deals with income taxes; it focuses on federal taxes, but also has some questions about state and local taxes. The "experts" who answer the questions in this setting are self-proclaimed, and there are frequently cases where several experts disagree with a certain diagnosis. Because of the one-sided nature of the communication, and because the order in which messages were posted caused many topics to be unnaturally interleaved, people developed conversations by including quotes of earlier messages and responding to them. The actual stored transcripts replace this with cross-references to the appropriate message, and the dialogue shown in the examples reconstructs how each person responded to earlier statements. 28 examples were extracted from this source.

- Transcripts of the radio talk show "Harry Gross: Speaking about Your Money", broadcast on February 1–5, 1982 by radio station WCAU in Philadelphia[1]. This was a radio show where people would call in with questions about how to invest their money, and an expert would advise them. One interesting consequence of this type of medium is that it is in the expert's best interest to process the maximum number of calls in the shortest possible time. So the expert was often trying to diagnose the user's problem even before the user had completed his or her first sentence. There are several examples where this led to confusion because the expert jumped to a conclusion too soon. 35 examples were extracted from these transcripts.

- Transcripts of a set of on-line dialogues between computer consultants and users of the Emacs editor, collected for a class in spring 1982 at the University of Pennsylvania[2]. These conversations took place using a computerized "talk" program, where the user and the consultant would send messages back and forth to each other. There is one particular set of conversations where several different people have problems with the same concept (marking a region in Emacs), but express their difficulties in much different ways. 12 examples were taken from these transcripts.

- Misconception examples that have been used by other researchers. These examples have appeared previously in the literature in various forms; some of them are conversations that actually occurred, some are loosely based around actual situations, and some are completely contrived. There are 25 examples, extracted from the following papers: [JWW84, McC86, McC89, Pol86, QDF88, vB87].

- Miscellaneous examples from the income tax domain that were collected during personal conversations with various people. There are 11 examples from this source.

The examples in this report are as close to their original form as possible. The original transcripts, which are completely unedited (except for the cross-referencing mentioned in the misc.taxes transcripts) are available from the author at the address on the cover page. The examples in this report correspond word for word with the original transcripts except for the following alterations:

- Each example was restricted to just the statement containing the misconception and the response, along with the minimum amount of surrounding dialogue necessary to

[1]Thanks to Martha Pollack and Robert Kass for providing these transcripts.

[2]Thanks to Ethel Schuster for providing these transcripts.

establish context. The original order of the statements has been preserved, but unnecessary tangential material has been deleted, and a few additional words have been inserted in some places to clarify the context. All deleted material is marked with ellipsis, and all additions are marked with square brackets.

- All personal names have been eliminated, and have been replaced with [U] for the user (or novice, or person asking the question) and [E] for expert (occasionally [E1], [E2], etc. if more than one expert responds).

- Line spacing has been changed, and certain obvious typographical errors have been corrected to improve readability.

1.2 Types of plan-based misconceptions

Before continuing, it is a good idea to clarify exactly what is meant by a plan-based misconception. The term **misconception** refers to any incorrect belief that is held by the user. A **plan-based misconception** is an incorrect belief about a component of a plan. The reasons for restricting attention to plan-based misconceptions are that it requires an agent to reason about the user's plan (and therefore to do plan recognition), and that it intuitively restricts misconceptions to a "top level" and eliminates the need to search for hidden "underlying" misconceptions.

The classification that is used in this report contains ten different types of plan-based misconceptions. This classification is described in detail in [Cal90]. This is summarized in the following chart. The frequency column records the number of examples that fall into each category. Many of these entries are ranges because not all examples could be classified exactly; this is explained at the end of this section.

PLAN-BASED MISCONCEPTIONS		
Component	**Failure**	**Frequency**
Bindings	Violated Binding	16–21
Preconditions	Violated Precondition	7–14
	Substituted Precondition	8
	Missing Precondition	16–23
	Extra Precondition	4–5
Steps	Violated Optimization	17
	Substituted Step	11–14
	Missing Step	5–6
	Extra Step	12–14
Orderings	Violated Ordering	2

Violated Binding: Certain plan parameters can be restricted by the calling plan. If the user attempts to use an incompatible binding, a violation occurs.

Violated Precondition: Since a precondition is something that must be true for a step to be executed, a precondition that does not hold when the user tries to execute the step is an obvious failure. In the case of a violated precondition, the user is aware that the precondition exists, but is not aware that it has been violated.

Substituted Precondition: In this case, the user is aware that the precondition exists, but his version of the precondition is incorrect.

Missing Precondition: Here, the user is not aware that the satisfaction of this particular precondition is necessary for the success of his plan; it is completely missing from his version of the plan.

Extra Precondition: With an extra precondition, the user thinks there is an additional precondition that needs to be satisfied in order for the plan to succeed, but in fact it is not necessary.

Optimization: It may be the case that two alternative ways of achieving a plan are both "correct" in the current situation (i.e. there are no actual violations), but one of the branches may be preferred over another. If the user chooses a sub-optimal path, then there is an optimization violation.

Substituted Step: The user is attempting an incorrect step in place of the correct step.

Missing Step: The user should have included this step in his plan, but didn't. The missing step could be a substep that needs to be included, an alternate way of achieving the plan that the user is not aware of, or an additional atomic action that is generated by a higher step.

Extra Step: The user is including a step that doesn't belong. These are exactly analogous to missing steps.

Violated Ordering: This includes both violated temporal orderings, where the user incorrectly tries to do one substep before another, and violated mutual exclusion, where the user incorrectly thinks that two steps of a plan can occur together

The assignment of a particular example to a particular class may not always be 100% accurate, and some examples are purposely left ambiguous. For certain types of misconceptions, the classification depends a great deal on the specific encoding of world knowledge. For example, it is often easy to translate between violated bindings and substituted steps by changing the granularity of the plan hierarchy (replacing a plan "foo" and parameter "x" with a specialized plan "foo-x").

1.3 Overview of the collection

Section 2 contains 79 examples of true plan-based misconceptions. There are also two other sections of examples that look like plan-based misconceptions at first glance and act like plan-based misconceptions in certain respects. But they do not fit the technical definition that was given above.

The 18 examples in Section 3 are plan-based, but the user is *questioning* whether something is possible. If the user is questioning it, then he is not making any claims as to whether it is true or not, so it isn't a misconception. These examples are abbreviated "QUERY".

Many of these examples are just an artifact of the particular way in which they were phrased in the actual examples. They could be converted to legitimate plan-based misconceptions just by changing the wording slightly, and in other situations the speakers themselves might have actually phrased them in that way. These examples are abbreviated "PLAN". If it appears possible to convert the example into a plan-based misconception, the classification will be given.

The 14 examples in Section 4 do contain actual misconceptions, but they are not plan-based in their current form. These often take the form of isolated statements about the world. Some of these could be classified as plan-based misconceptions if additional context firmly established that the user was referring to a component of a plan, but this context was not present in the actual transcripts. If it appears that a reasonable plan-based misconception could be constructed from the example, the appropriate classification will be given (but these should be considered quite suspect).

Section 5 contains examples of dialogues where the participants explicitly refer to the fact that they are reasoning about plans. These are provided as supporting evidence that people actually do view their mental processes in terms of goals and plans.

Finally, there is an index at the end that cross-references each of the examples using many different criteria:

- the type of misconception present in the example
- certain properties of the example (i.e. examples with multiple experts, examples where the expert misdiagnoses the problem, etc.)
- the source of the example
- the topics and subject matter of the example.

This makes it easy to locate specific examples, or to extract subsets of examples that form certain categories.

2 Plan-based misconception examples

1. **Source:** Newsgroup/capital-gains

   Description: U knows there's a new law, but thinks there's still a difference between short-term and long-term. U really has an optimization question, but there's no distinction between the two. The actual misconception is "it is no longer very attractive to sell long-term stocks." Second exchange is another, independent, misconception that U thinks his being a minor makes a difference.

   Classification: First exchange: Extra Step(alt) because of new law (user thinks there's still a difference). Second exchange: Extra Precondition (bought when he was a minor).

   [U] I have some stocks which were bought in my name about 20 years ago. I would like to sell them now. Since the stocks were bought such a long time ago, most of their value will be capital gains. I'd like to know how I should calculate the taxes I would have to pay. I understand the laws on taxation of capital gains have changed considerably in the last few years, so that it is no longer very attractive to sell long-term stocks (?) What were the laws before and how are they different now?

   [E1] Under the old tax laws, there was a distinction between short vs. long term gains, (they were taxed differently) but under the new tax there is no distinction (ie short term and long term gains are currently both taxed as ordinary income).

   [U] If it makes any difference, they were bought when I was a minor (with a guardian) and then transferred to only my name when I turned 21.

   [E2] Your age has no effect; either they were bought in a Uniform Gifts to Minors account or in your parents name and they gave it to you. The cost basis is the same.

2. **Source:** Newsgroup/capital-gains

   Description: Very bad case of incorrect procedures; none of the experts agree. E1 says U needs to pay taxes on $50K, E2 says $26K, E3 says $30K, E4 says $45K.

   Classification: Incorrect Procedure (could include Substituted Step, Missing Step, Violated Binding).

   [U] I purchased a home for $125,000.00. I am going to sell home for $175,000.00. I have added $5000.00 worth of upgrades. I owe $120,000.00 on the home. I plan on buying a home for $75,000.00. What amount will I have to pay capital gains tax on and why?

   [E1] Your "gain" is the difference between your "basis" and your sales price. The basis is the cost plus certain improvements (most clearly qualify, so I'll assume your full $5,000 qualifies). Your gain is:

$$\$175,000 - (\$120,000 + \$5,000) = \$50,000$$

When re-investing in property (primary residence only), the IRS lets you defer tax on the gain to the extent that the new property is "swallowing" the gain on the sale of the old property. If your new property cost $175,000, you'd have no tax to pay on the sale (YET; the tax being deferred to some other time). Since, however you are buying a house for $75,000, you aren't re-investing any of the gained amount; the $75,000 is deemed to be taken from the $125,000 basis, so you will be taxed on the full $50,000 gain. (Advice: Find a house that costs at least $175,000 for your re-investment.) What you owe on the house doesn't enter into the equation.

[E2] I believe that capital improvements are deductible and so are fixes within the last 6 months. Also the answer I read computed your taxable gain wrong. Your actual gain is 45,000. This is taxed based on the ratio between the selling price of the old house and the buying price of the new house. In this case, 75/175 = 42% has been replaced and this gain can be deferred. Then 58% of your 45,000 gain or 26,000 is taxable.

[E3] Unfortunately your figuring is incorrect. If you fill out Form 2119 (Sale of Personal Residence) you will find out that your basis will be 130K and the *GAIN* will be 45K. You can defer the tax on the 45K by lowering the cost basis of the new house purchased 75K - 45K = 30K. Otherwise you will have to pay a maximum of 28% tax on the 45K profit from the sale of the old house. You don't figure percentages or use ratios between the cost and the sale price of the old house and the cost of the new house.

If you had bought a house for only 25K then you could have deferred the first 25K, and brought the cost basis for the new 25K house to 0K, and you would have to pay taxes on the remaining 20K.

[E4] This is also incorrect. In order to defer 100% of gain you must purchase a new home greater or equal to the price at which you sold your previous home and within a period 2 years before or 2 years after the sale of the previous home.

In this instance, the gain is 45K. If the new home is purchased for 75K the entire 45K is taxable THE YEAR OF THE SALE. The amount that is taxable is simply the difference between the 175K sales price (adjusted and all that) and the new purchase price (minus fees, etc), e.g. 160K NEW PURCHASE PRICE == 15K currently taxable, 30K deferred.

[E5] Form 2119 requires that the new residence purchased be of equal or greater value than the residence that is sold in order to defer the gain. The only exception to this is the one time exclusion of up to $125K of capital gain if you are 55 or older.

3. **Source:** Newsgroup/depreciation

Description: Rules for depreciation period changed, and U isn't aware of it.

Classification: Violated Binding or Missing Precondition.

[U] A couple of months ago there was a posting in this news group regarding depreciation of rental property on a 19 year schedule. I would like to get more information regarding the qualifications for this deduction if the option truly exists.

[E] This was the old depreciation schedule.... For residential property the depreciation period is now 27.5 years straight line.

4. **Source:** Newsgroup/foreign

   Description: Assume "permanent resident" and "resident alien" are synonymous. U suspects there is some precondition here involving citizenship, but doesn't know exactly what it is, so he includes the relevant information just in case.

   Classification: Missing Precondition

   [U] I was wondering if anyone had any experience in claiming their parents *living abroad* as dependent on their tax return. The parents in question are neither US citizens nor permanent residents.

   [E] One of the requirements is ... they MUST be resident aliens or US citizens.

5. **Source:** Newsgroup/foreign

   Description: E1 thinks that an alien only needs to declare intent. E2 removes this misconception, and E3 provides the correct precondition.

   Classification: Extra Precondition for E1, corrected by E2. Missing Precondition for E1, corrected by E3. Actually just one Substituted Precondition.

   [E1] ... Any alien can take all those [standard] deductions and use exactly the same tax laws which apply to citizens and resident aliens, IF he declares that he INTENDS to become a resident alien or citizen!!

   [E2] I just received my copy of the IRS tax guide for non-residents.... On page 1 it specifically states: "Intent is not important in determining residency status."

   [E3] No this more to it that than [sic]. An alien must have "substantive presence" meaning he must either (1) be physically present in the US for 183 days of the current year or (2) "physical presence for at least 31 days in the current year. In addition, the sum of the days in the current year, plus one third of the days in the prior year, plus one sixth of the days present during the next previous year must be at least 183 days."

6. **Source:** Newsgroup/investments

   Description: E1 uses the wrong value for the average cost per share for the second sale.

   Classification: Substituted Step.

   [E1] ... [There are two] different methods for computing the cost basis for mutual fund shares to determine capital gains tax.

   The method that I always used was the FIFO method, where you sell first the shares that you acquired first, and use the purchase price as the basis.

   Another method is the average cost – single category method. The shares are chosen as in the FIFO method, but the basis is the average cost of all the shares owned at the time of the sale.

   Here is a simple example:

1/1/84: Purchase 100 shares at \$10.00/share (a total of \$1000)

1/1/85: Purchase 100 shares at \$20.00/share (a total of \$2000)

1/1/86: Sell 100 shares at \$30.00/share (a total of \$3000)

1/1/87: Sell 100 shares at \$30.00/share (a total of \$3000)

Using the LIFO method, the basis for 1/1/87 is \$1000 giving a capital gain of \$2000. The basis for 1/1/88 is \$2000 giving a capital gain of \$1000. The total gain is \$3000, which not surprisingly equals the amount of profit.

Using the average cost method, the basis for 1/1/87 is \$1500 (because half the shares are at \$10.00/share and half are at \$20.00/share) giving a capital gain of \$1500. The basis for 1/1/88 is \$2000 (because all the shares owned at that point are at \$20.00/share) giving a capital gain of \$1000.

The total capital gain is \$2500. I save \$500 in taxable income! Is this rally right? It sounds too good to be true!

[E2] This doesn't sound right. The average cost of your shares for the first sale is the total amount you paid (\$3000) divided by the number of shares you have (200), or \$15. When you sell these 100 shares, you're left with 100 shares @ \$15 each (since you haven't bought or sold any shares in between, the average cost per share can't change), so the basis is still \$1500 and not \$2000.

7. **Source:** Newsgroup/ira-401k

Description: U thinks there's no penalty for early IRA withdrawal after a certain age. E's correction is right, but his diagnosis is wrong (U clearly states what he believes).

Classification: Extra Precondition (under certain age) for IRA penalty, or Missing Step (for paying penalty).

[U] This fellow was saying that if an investor is over 59 1/2 years of age, AND has an IRA in a CD, there is not only no IRA based penalty for withdrawal, there is no penalty for withdrawal before the CD matures.

[E] ... This sounds as if this fellow heard that IRA funds may be withdrawn at a certain age WITH NO PENALTY. This means "No penalty imposed by the IRS" and does not mean "No penalty imposed by the issuer of a CD." (Same statement applies to mutual funds with 12b or other withdrawal costs - the costs will still be applied, but the IRS will not impose a penalty)

8. **Source:** Newsgroup/ira-401k

Description: Self-diagnosed. U thinks he can deduct IRA if not covered by 401K for full year (or can deduct at least part of it).

Classification: Substituted Precondition

[U] In February of 1987 I changed jobs. My former employer had a 401K plan, while my current employer doesn't have any type of pension plan. When I changed jobs I opened an IRA for the full \$2,000, and took a deduction for that amount. It turns out that if you are covered by a pension plan for any portion of the year you are ineligible for any deductible IRA contributions. I estimate that I only managed to get about $350 put away in the before-tax 401K contributions before I left the company.

... I realize that I tried to deduct something twice. I tried to deduct about $2,400 (the $2K IRA plus the $400 in the 401k rollover that I estimate came from 1987 contributions). I could understand if they disallowed the extra $400, but they disallowed the entire $2K.

... I could only rollover as much as I had already contributed, which I estimate was $400. I would like to get the full $2,000 deduction that I would normally be entitled to from an IRA. Had I rolled over into another 401k plan I would have been able to continue contributing to it. But because I rolled over into an IRA I was not able to make any other deductible retirement contribution.

9. **Source:** Newsgroup/ira-401k

   Description: U thinks deductible and non-deductible *must* be separated. E corrects him and says that they can be combined, but that that would be suboptimal. (but E never answers the second part of the question).

   Classification: Missing Step(alt), Optimization

   [U] My understanding is that it is not permissible to combine deductible and non-deductible IRA money in the same account. Must I disentangle the two accounts, and how do I do it?

   [E] My understanding is that it is permitted to do so, but it will result in major headaches as you'll have to retain your IRA records for the rest of your life and engage in non-trivial computations when filing your tax forms.

10. **Source:** Newsgroup/mortgage

    Description: This topic occurred rather frequently. U is missing the one piece of crucial information (the current interest rates), and thinks he needs extra information about the tax rate. Not sure I understand the scenarios of E2 and E3. E2 is actually the person that has the misconception (since U's statement is a QUERY).

    Classification: U has Optimization. U and E2 have an Extra Precondition on their optimization.

    [U] ... Are 15 year payout periods [on a mortgage] preferred to 30 year payout periods? What effect would a higher future tax rate have on your answer?

    [E1] This one is easy. It can be shown (I posted a rather extensive article a long time ago) that the ONLY factor you should consider when selecting a mortgage (15 years vs 30 years vs bimonthly, how much should go towards a down payment, etc) is whether you can invest the money at a rate higher than your mortgage rate (assuming your mortgage interest is fully deductible).

    ... If anyone tells you you'll be saving hundreds of thousands of dollars in interest by taking a 15 year loan instead of 30 year or by increasing the down payment, they don't know what they're talking about. The math is very simple and is left as an exercise to the reader. Tax rates have nothing to do with it, by the way.

[E2] The original poster also said taxes have nothing to do with it. I don't understand that statement. If I itemize (and with a big mortgage interest payment I certainly do), I deduct the interest and that makes my effective interest rate lower. If I do not make that interest payment I have the money to spend on something else like another investment. But wait, now the government takes 28% of it so I only have 72% of it to spend. What I have really spent on the interest payment is that smaller amount since I would never have had the 28% to invest anyway. That makes my effective interest rate lower in terms of opportunity cost. Therefore I need to work out the numbers to find the break-even point for principal payments versus other investments (all other things taken to be equal which, as [some other expert] points out, they are not.)

Put another way, I take my dollars I want to invest somewhere and make a payment on my 10% mortgage. I no longer pay 10% of that dollar amount to the bank but rather I keep it in my account so I think I have made 10% on my money. At tax time, though, I have to pay 28% of that 10% to the government in income tax (I got the money as income in the first place) so the benefit I get to keep from making that mortgage payment is considerably less than 10%. 72% of 10% is 7.2%, right. Now it looks as though if I can make an investment at greater than 7.2% I should do that instead of making the mortgage payment.

Why do you say taxes have nothing to do with the decision?

[E3] Let me make this simple. You have, say, $10,000 lying around, which you can use either to reduce your mortgage principal (and hence your payments), or in another investment of equal safety, fluidity, etc. Both the mortgage and the alternative investment have the same pre-tax interest rate, say 10%.

If you use it to offset mortgage, you lower your annual interest payments by 10,000 * 10% = $1000. But you lose the tax benefit of say, 28%, and hence your effective gain is $7,200 or 7.2%.

If on the other hand, you put the money in the alternative investment, you get a 10% pre-tax return on it, which is $1000. But this return is taxed at 28% (ordinary income), and hence your net gain is $7200, or 7.2%, the same as in the previous case.

A similar, but more detailed analysis proves that the 'leveraged appreciation' advantage is a myth too, and even taking appreciation into account, the real return is the same in both cases. That is left as an exercise to the reader :-)

11. **Source:** Newsgroup/mortgage

    Description: E1 thinks he can deduct *all* the points, but he probably can't.

    Classification: Missing Precondition.

    [E1] ... [When you get a mortgage,] you can deduct the points; if the points are substantial, you may save quite a bit on your 1988 taxes, despite the larger standard deduction this year. Also, your closing costs will almost certainly include several hundred dollars of interest expenses.

[E2] [Some other expert] was correct. There are TWO types of points mortgage companies and some banks charge:

1) Discount points - these are simply interest paid up front and they lower the annual rate paid on the balance. Mortgage companies dreamed these up to increase their share when they "power broker" your loan to a large institution at a lower rate. These are deductible.

2) Sleaze points - these are simply one more way the lender can squeeze a few extra bucks out of you. These are often referred to as "Origination Points" or "Processing Points" on the HUD form. They do not reduce your interest rate and are NOT deductible.

12. **Source:** Newsgroup/two-state

Description: E's response is completely irrelevant; U specifically stated that Indiana and Illinois have an agreement, and E is assuming that they don't. U's question probably doesn't contain any misconceptions as such.

Classification: U: no misconception. E: Violated Precondition.

[U] I have a question about filing state tax returns when a person has a permanent address in one state and works in another state (and stays at a "local address" in the state of employment during the work week).

... If she has to file a tax return in Indiana, would she actually have to file first for a refund of the taxes deducted in Illinois? Or is there a way to transfer that money somehow by filling up a form. I do know that Indiana and Illinois have a reciprocity agreement.

[E] If there is no agreement between Illinois and Indiana concerning income tax on commuters, here is the way it probably works (I'm using the example of people living in NJ and working in NY).

1. There is probably a non-resident income tax form that is filed in the state of employment. Tax is paid only on wages actually earned in the state of employment. ...

13. **Source:** Newsgroup/two-state

Description: U thinks that there's a new NYS rule that taxes all income earned everywhere. E1's answer originally looks like he's correcting a Violated Binding or Substituted Step at first, but he's actually giving a correct (but vague) answer. E2 provides the information about the final step. U is actually probably missing the entire subplan of figuring the tax credit for out-of-state earnings.

Classification: Missing Step

[U] I just heard ... that for the 1989 tax year NY intends on taxing joint filers for all income earned *anywhere* if just one of the taxpayers earned income in the state. The current rules tax only NY source income. Could this possibly be true?

[E1] But, it's not quite the way you have described it. What happens is that they tax you at the *rate* for the total income, but then apportion the tax.

[E2] The horror stories fly (again). This issue is creating QUITE a stir here in Conn – mostly due to mis-information. The 'new' NY tax was actually passed two years ago and is part of a NY tax overhaul.... Now, all NY tax returns are prepared as if that person was a full-year NY resident and the tax computed on the total income from all sources (both within and without NY). In the final step one prorates the tax by the percent of NY source income.

14. **Source:** Newsgroup/two-state

Description: Self-diagnosed. E was missing several preconditions (and/or negations) on his plans for paying state taxes. Thought that non-resident had to pay state tax on a CD, then get a tax credit. But actually only has to pay tax in state of residence. So wrong answer was given because of the missing preconditions.

Classification: Missing Precondition.

[E] Some time ago, [some user] asked whether she would be required to pay MA state taxes on a CD she owned there. She is neither a resident of MA, nor does she work in MA. I held forth (relying on an opinion from a tax attorney some years ago) that she was so liable, but could claim credit for taxes paid in MA when filing her home state's tax return. I erred.

... One pays taxes for amounts earned on bank accounts (including CDs) to one's home state, unless one or more of the following apply. (One is a resident of the first state, ... and has the account in the second state...).

- One is also employed in the second state, and there is no reciprocal agreement about wages. Of course, one is already filing in the second state, and can simply check the instructions. PA seems to specifically disclaim any desire to tax the account, while some other states seem willing to tax it.
- One is considered a resident of the second state, as well as the first. This can happen when one is a student in a state other than one's home state and spends more than half of the year at school. Rules on this vary from state to state.
- One was a part-year resident of the second state. One may owe tax on the account for the whole year, or only the part one was a resident, depending on the state.
- The account in question has passed through an estate or partnership during the tax year in question. Usually, estate and partnership income are taxed exactly as if the pro-rata share were earned separately by each partner/heir, but in this case the state of taxation changes.
- The account is held jointly by a resident of the second state and a non-resident, even if the Taxpayer ID number of the resident is listed. In this case, if there is a substantial amount at issue, the second state may claim that the money really belongs to the resident, and is therefore subject to tax.

- If, for any reason not listed above, one has already come to the attention of the taxing authority in the second state, one may be required to (or just find the odds of an audit less if one does) file for and pay taxes on the account or CD in question.

Thus, in the case which [the user] asked about, she DOES NOT appear to owe tax in MA, but pays to her home state.

15. **Source:** Newsgroup/vesting

Description: U doesn't have any real misconception; he knows the rules have changed, and that there's a different number of years now. E1 is the one with the misconception; he has the right alt node for the two cases, and has the right amount for 5 years, but is wrong about the 7.5 years.

Classification: Violated Binding (or Substituted Step).

[U] The Tax reform act of 1986 changes the rules for becoming vested in a company's retirement plan.... I believe the original law said after 10 years an employee would be fully vested. Does anyone have any information about the new rules?

[E1] The new rules mandate 5 year vesting, with 7.5 years allowed in some cases. (I don't know how the distinction is made).

[E2] I believe the law actually says that a company must choose one of two options:

- Grant full vesting after at most 5 years, or
- Grant partial vesting in years 3 through 7, employee fully-vested after 7 years.

16. **Source:** Newsgroup/withholdings

Description: Basically, U is not following known directions; he knows that he's supposed to claim a certain number of deductions, but is trying to knowingly violate that (i.e. a purposeful Violated Binding) and thinks there will be a penalty. E2's answer looks like he's correcting a substituted precondition, but actually isn't.

Classification: Best guess is Substituted Precondition on existing step for penalty (extra + missing).

[U] I got wind somewhere that the IRS now charges a penalty for not having claimed the number of standard deductions you are allowed on your w-4 form. Any truth to this? What if you have a child, but do not adjust the w-4?

[E1] In all the IRS literature I've seen, there is no provision for any penalty if you overpay your tax, which is what may happen if you don't declare enough withholding exemptions.

[E2] You will not be penalized for not having claimed the correct number of deductions on your W-4, but you will be penalized if you *underpay* your taxes for the year by 10%. Example: if your tax for 1988 is $5000 and you only had $4000 withheld from your pay, then you will have to pay a penalty. You must have paid in *at least* 90% of your total tax bill by the end of the year (1988), OR, have paid in equal to your previous years (1987) tax liability.

17. **Source:** Newsgroup/withholdings

    Description: E1 has the wrong form name.

    Classification: Violated Binding

    [E1] Looking at the 28% bracket in the married category from the 8% tables below, there is a tax difference of $895.00 between the 1040-ES and the Circular E Table 7. Plugging $50,000 into Schedule Y-2 gives a tax due of $9976.50.

    [E2] I think you meant Y-1.

18. **Source:** Radio/insurance

    Description: U has already eliminated one possibility (of cashing in the policy), presumably because he thinks it's suboptimal. But that possibility did exist in his hierarchy.

    Classification: Optimization.

    [E] Do you need [the insurance policy]?

    [U] Not really.

    [E] Well if you don't need it, then let's cash the policy in.

    [U] I wasn't considering cashing the policies, I was considering borrowing the money.

    [E] ... It may be better to cash them in and get other insurance.... You'll pay less money.

19. **Source:** Radio/insurance

    Description: In first exchange, U is choosing a suboptimal plan (get double indemnity). But then he misinterprets E's response, and overgeneralizes, thinking that he should get no attachments at all.

    Classification: Optimization, then Overgeneralization

    [E] What's the coverage on your [life insurance] policy?

    [U] 15 thousand double indemnity

    [E] Why do you get double indemnity?... Does it matter really whether you get killed by an accident or whether you get killed by a disease? ... It doesn't make any difference; the real important [thing] to me is an emotional kind of coverage.... From my point of view it [double indemnity] doesn't pay because the important thing to you is to make sure that your family is protected if you die; it doesn't make any difference how you die and as a matter of fact it's probably worse if you die from a disease.

    [U] Right.

    [E] ... Forget the double indemnity jazz. When you get that [new] policy in your hand, surrender this one and get the cash value out.

    [U] ... Then it would be better to get a just straight life insurance policy and forget about all these uh other attachments.

[E] No no, there is an attachment I'd like you to have and that's called waiver of premium in case of disability.

20. **Source:** Radio/insurance

    Description: Buying treasury notes and buying municipal bonds are both legal plans, but one is better.

    Classification: Optimization.

    [E] Put this money aside in treasury notes.

    [U] I thought maybe we should buy municipal bonds with that.

    [E] If you buy municipal bonds the interest on your loan will not be deductible. So municipal bonds just don't make sense in this case.

21. **Source:** Radio/real-estate

    Description: Very similar to one of the Newsgroup examples. U has both alts (pay off or don't), but was told that one was better when that's not necessarily true.

    Classification: Optimization.

    [U] I have ... a 14% mortgage and I have 28 years remaining, and I read an article in a magazine that it might pay me to pay off some of the principle because the principle is so small right now, and thereby save a lot of interest. Is that true or would you recommend something like that?

    [E] Well on a 14% mortgage the question really is where is your money invested? ... If you have your money invested in an area where you're going to ... be getting 14 or better shortly, I don't see any reason at all why you should pay off any of that mortgage. Sure, if you pay off, they give you all kinds of numbers, that if you pay the the mortgage off early you make a principle payment now you save umpteen dollars in interest. That's great but they're talking about dollars, let's compare comparable things, let's compare the percentage. The percentage that you're making on your money, if it exceeds 14%, ya don't pay off the mortgage.

22. **Source:** Radio/taxes

    Description: Perfect form for a tax query. U thinks that the fact that both are over 65 makes a difference, but it doesn't. I don't know what "2 or 5 out of 3400" refers to.

    Classification: Extra Precondition

    [U] My wife and I are both over 65. What do I put on line 40 [of schedule A, itemized deductions]?

    [E] Oh god I don't know what line 40 says. What does line 40 say?

    [U] It uh, if you check from 1040 filing status box. 2 or 5 out of 3400.

    [E] Well what appears on the front of the form?

    [U] Well ... we're both over 65 so I...

[E] Whoa that doesn't matter.... You're married, right? Filing jointly?

[U] Yes.

[E] 3400 is the figure that goes on it.

23. **Source:** Radio/taxes

    Description: A couple of misconceptions here. First, U thinks that he doesn't have to declare interest if he doesn't get a 1099 form. Then he thinks that he is supposed to get the form at the end of the 30 months, instead of at the end of the year. (this might be just one misconception).

    Classification: Missing Step(alt) for what to do if no 1099 form, Substituted Precondition on the 30 month/year.

    [U] [I have a 30 month certificate and] I have not received any interest on it. I don't have to show any interest on it because they have not given me any 1099's or anything.

    [E] Oh hang in there my friend.... You have a 30 month certificate?

    [U] Right.

    [E] And they have not sent you a 1099?

    [U] No. What they have sent me is a bill for the interest for the money I have borrowed on it.

    [E] And what about the interest that you've earned?

    [U] I've never gotten anything from them.

    [E] Then they are remiss in not sending it to you because that money is taxable sir.

    [U] I know it's taxable, but I thought they would wait until the end of the 30 months.

    [E] No sir, not for state purposes or federal purposes neither way, and remember for state purposes you do not get a deduction for the interest you are paying them.

    [U] And for federal?

    [E] For federal you do get a deduction for the interest you're paying.

24. **Source:** Radio/taxes

    Description: U thinks he can take both capital gains and a 10 year advantage. But he can really only do one or the other (they're mutually exclusive).

    Classification: Violated Mutex

    [E] You only get that 10 year advantage [10 year averaging].

    [U] Isn't there a portion of that profit sharing which is ordinary income and ...?

    [E] Yeah, the amount based upon pre-1976 contributions can be capital gain.... But you can't use the capital gain plus the 10 year advantage.

    [U] Oh, I see. You have to use one or the other.

25. **Source:** Radio/taxes

Description: U doesn't know there's a precondition "not dependent" for income averaging. Note that with just U's query, we wouldn't be able to tell if the precondition was missing or just violated.

Classification: Missing Precondition.

[U] I have a question on income averaging.... I was a student from '76 through '79, and I worked–

[E] You just said the key words.... Were you self-supporting?

[U] ... Well, I was living at home, but I was not–

[E] All right, let me ask you the crucial question: Did your parents claim you as a dependent?

[U] Hm. I think so, bit I'd have to check my records.

[E] If your parents claimed you as a dependent, income averaging is not available.

26. **Source:** Radio/securities

Description: This example was *very* common in the transcripts. It's legal to put $5000 in a passbook, but it violates the optimality requirement of getting the most interest.

Classification: Optimization.

[U] We also have $5000 in a passbook.

[E] Woooo. Too much.... $500. Put the rest into a money market fund.

27. **Source:** Radio/securities

Description: First exchange isn't a misconception, since U is questioning it. But the second is, since U thinks Delaware cash reserves is just government securities when it isn't yet. (U must be aware of precondition, since E just said it).

Classification: Violated Precondition.

[E] As far as I'm concerned, you can go to any fund you please. No Load Fund is merely an association of mutual funds.

[U] I see. Now ... are they all government securities?

[E] No. You can select one that invests only in government securities, and if you want to do that you can pick one of those right out of the booklet that they will send you from the no load fund association.

[U] Well that also refers to the Delaware cash reserves too.

[E] Delaware cash reserves is NOT exclusively in government securities.... They will eventually have such a fund. At present they do not.

28. **Source:** Radio/securities

Description: U thinks he should buy his no-load fund from a broker, but he should buy it directly.

Classification: Violated Binding.

[U] The No Load mutual fund: I would buy it from the broker, right?

[E] ... No! If you're talking about an IRA in a No Load fund, not through a broker; directly.

29. **Source:** Radio/securities

    Description: U thinks he's just supposed to pick regular mutual stock funds, but E wants him to choose ones with certain characteristics.

    Classification: Missing Precondition.

    [E] Look at those [mutual funds] and pick two or 3 of those to put that 15 [thousand dollars] into.

    [U] These are just regular mutual stock funds?

    [E] No, I'm looking for the growth funds which are the ones that performed best over let us say the last 2-3 years or the last 5 or 10 years.

30. **Source:** Radio/securities

    Description: U says money market funds instead of certificates, then thinks there's a difference between treasury bills and money-market certificates, but E doesn't think so.

    Classification: Violated Binding (2 separate ones).

    [U] Now the regular money market funds that I've got now are ok.

    [E] Now you're talking about money market certificates.

    [U] Yeah.

    [E] All right those are ok....

    [U] How about treasury bills?

    [E] That's not a bad idea, but it doesn't replace your money market certificate in any way; it's an exact duplicate.... They're almost identical types of instruments, so one, as far as I'm concerned, is about the same as the other.

31. **Source:** Radio/securities

    Description: Self-diagnosed. E gets date wrong a few times (switching between today and tomorrow), then realizes that it's already too late.

    Classification: Violated Binding, then Violated Precondition (dependent misconceptions).

    [E] [I would like you to invest] 13 thousand in US treasury notes. Now if you can get down or you have somebody go down to the treasury department, to the federal reserve today uh tomorrow rather — no no no tomorrow's going to be the day — ... I think it has to be in today.... Oh no, I have my date wrong; it IS today.... It's already sold.

32. **Source:** Radio/securities

Description: U refers to treasury twins, which E has never heard of. E recognizes it as a violated binding, but gives up trying to figure out what he's referring to.

Classification: Violated Binding (or Substituted Step).

[U] I have a brother that suggested to take out treasury twins.... I never heard it mentioned on this show about treasury twins.

[E] Treasury what?

[U] ... T-w-i-n-s. TWINS, treasury TWINS.... My brother said he has them.

[E] ... I have never heard of TWINS.

33. **Source:** Radio/securities

Description: Lots of examples of using incorrect numbers. Basically, both are trying to calculate the number of years until a certificate matures, but they are completely confused. This conversation took place in 1982.

Classification: Violated Binding (3 of them).

[E] If the penalty [on early withdrawal of a certificate] is going to be taken based upon the the difference between the rate on the certificate and the passbook rate, that's gonna hurt you too much.

[U] ... Even though it's 4 more years [until it matures]?

[E] Well it isn't. It's only 2 more years.

[U] Oh 4 years — that's right, yes the other 3.

[E] Didn't you say 84?

[U] Right.

[E] Well that's 2 more years, maybe 2 1/2.

[U] Well this is 82, ... no I beg your pardon it's 86.

[E] ... 86! then you put the thing in in 1978?

[U] 1978, I'm sorry. Yes it's 1978, and it's an 8 year certificate for 20 thousand...

34. **Source:** Radio/securities

Description: E checks lots of preconditions, then corrects U when she says the wrong form.

Classification: Violated Binding.

[U] I want to ask you about whether I have to turn in an income sheet. I only have $6256 for the year's income.

[E] ... How old are you?

[U] 78.

[E] Are you married?

[U] No, I'm a widow.

[E] Anyone dependent on you?

[U] No sir.

[E] May I assume that you still have your sight?

[U] Yes.

[E] You must file a return.

[U] ... I see.... File on a 10-30?

[E] You can file on a 1040 or a 1040a.... Do you have any deductions? Do you own a home?

[U] No I don't.

[E] Have you medical bills?

[U] No.

[E] Pay any heavy interest or substantial charitable contributions?

[U] [Not] at all; I just live here all by [myself].

[E] Then you use the short form 1040a; it'll be best for you.

[U] 40a?

[E] 1040a, yes. It'll be very easy for you to do.

35. **Source:** Radio/securities

    Description: U thinks Bache and Company is a bank, but they're a broker.

    Classification: Violated Precondition.

    [E] On the 2 and 1/2 years it [a 30 month certificate] is 14.55 [percent interest] if you buy it from a savings bank or a savings and loan and that compounds to just a shade under 16%.

    [U] How about if bought it from a major bank? ... I'm using Bache and Company.

    [E] They're not a bank; they're a broker.... The broker will not issue to you a 30 month certificate of the form that we're talking about.

36. **Source:** Radio/securities

    Description: U has a legal plan, but isn't getting the most efficient type of insurance. Interesting: "did I make a mistake there".

    Classification: Optimization.

    [U] I had just purchased a $30,000 whole life [insurance policy] ... a couple of weeks ago....

    [E] How could you do that after listening to me?

    [U] ... Uh did I make a mistake there?

    [E] Yes, I think you did.... What I would like you to do is contact the company from whom you purchased that.... I think that you will find that you will be able to get a lot more insurance for your premium dollars if you switched ... it to a 1-year renewable and convertible term.

37. **Source:** Radio/securities

Description: U is paying extra on his mortgage, but shouldn't because of the low interest rate on the mortgage. He starts to tell why he thinks he should be paying extra, then decides not to admit he made a mistake (just says that he didn't know which was better).

Classification: Optimization.

[U] We owe $1600 on our home and we pay extra every month, maybe 100 or 150.

[E] What's the rate on that mortgage?

[U] 8%.

[E] Why are you paying extra on the mortgage?

[U] Uh, we wanted — we didn't know whether it's better to pay it off.

[E] Absolutely unequivocally don't do it.... Don't put any more money into the mortgage than you absolutely have to at that rate. Keep your money in a money market fund.

38. **Source:** Emacs

Description: This example occurs quite often. U thinks that both ends of the region have to be marked.

Classification: Extra Step.

[E] In EMACS you can define what is called a "REGION", which in TECO or the DG Editor would have to be delimited by esc-keys or similar. Here, what you do is move the cursor to the beginning or the end of the block you want to delimit, type esc-m, move the before) and then type control-W. OK?

[U] ... beginning of Region How ?

[E] Type esc m.... Now end of region. You move the cursor down to the end of the region. OK?

[U] That's fine, how do I mark, esc w ?

[E] No, you don't have to mark the end of the region. Only one extreme needs to be marked with the esc m.

39. **Source:** Emacs

Description: U trying to set mark twice again. But different query format: first query doesn't mention any steps at all, and second query gives the entire procedure, not just one step.

Classification: Extra Step.

[U] I have not been very successful in killing any regions yet. I tried 3 times and no luck.

[E] What are you doing?

[U] I set the mark at the beginning, the mark at the end, then esc$\wedge$K and doesn't work.

[E] OK the problem is you only set the mark at one end of the region. Do not set the mark twice; it will not work.

40. **Source:** Emacs

Description: Still confused about number of marks, and gives whole procedure again.

Classification: ???

[U] I set the first mark at the bottom of what I wanted, so I didn't want to delete anything below that. I tried typing esc g a few lines below but saw no response.

[E] Hmmm. Let's do that again. Set the mark (there is only one mark. THE mark), move over one word or line, and type esc-g. The point (cursor) should move back and forth.

41. **Source:** Emacs

Description: Problem with marks again. But the way it's phrased this time, it's a presupposition/presumption, not a plan-based misconception (?).

Classification: ???

[U] I want to move a block of text as a unit. How do I do it?

[E] Mark out the region (do be sure to check that you've marked the right region with esc-G), kill it, move to where you want it, and unkill it ($\wedge$N). Comprende?

[U] Is only one mark active at a time?

[E] No. That's not quite the idea. There is only one mark. You kill a region BETWEEN the point & mark.

42. **Source:** Emacs

Description: U thinks he has to mark the region in order to lowercase it, but it's done automatically. U gives entire procedure, not just the single step.

Classification: Extra Step.

[U] To lowercase w whole region do I do the markset around the region and then hit esc ctrl l?

[E] No, it will determine the region by the spacing (ie blank lines if it is not clear from the spacing).

43. **Source:** Emacs

Description: U is using incorrect key binding.

Classification: Violated Binding.

[U] How do I define a region?

[E] ... Set a "mark" at some point (any old point) by typing esc-M. It will say "mark set"....

[U] No.... Typing $\wedge$M gives me carriage returns.

[E] I'm sure that it does. ESC-M will give set-mark.

44. **Source:** Emacs

Description: E gives the name of the function instead of the key sequence, and U thinks he's actually supposed to type that.

Classification: Violated Binding.

[E] Do go-to-mark several times now.

[U] If I start to type go-to-mark ... it adds go-to to the text file.

[E] Not just at the bottom of the screen?

[U] No from wherever the cursor is in the text file. I've typed esc-m moved the cursor down and typed esc-g. then I try the go-to.

[E] ... When I say type 'go-to-mark', what I mean is esc-G (ie the name of the command).

45. **Source:** Emacs

Description: U is trying an inappropriate procedure for changing the comment headers. It's either because he didn't understand the directions, or because he thinks 3 tabs will really center it.

Classification: Substituted Step.

[U] OK. Now what do you want done to the comment headers? Three tabs inserted?

[E] No, they should be perfectly centered. Do that with the "Center-line" command, esc-C.

46. **Source:** Emacs

Description: U knows there's a problem, but he doesn't understand how "unkill" works.

Classification: Substituted Step (add/delete).

[U] What ... did I do wrong that restores all the garbage lines?

[E] You may have unkilled a section.

[U] I thought unkill "unkill" the last command but it screwed up the whole thing going back to like 10 commands previously typed...

[E] If you do a number of kills in a row it will bring them all back. Do one at a time.

47. **Source:** Emacs

Description: U forgot to make the appropriate changes before he closed the macro.

Classification: Violated Ordering.

[E] You can set a macro to change the word. To do this first type ctrl-X (. This will start your macro.... Then do a search for the word you are trying to change and make all the appropriate changes for that one particular case as you would normally. When you are done type ctrlX)....

[U] I guess you have to give me the instructions once more. I don't seem to get it right. I type ∧X(, do a search for that word, type ∧X), get the binding message and type ∧J and then what?

[E] You don't want to type ctrl X) until you have change the mistake. Make the changes you want then type Ctrl x).

48. **Source:** Emacs

Description: E's procedure has a Violated Precondition in it. (actually, E probably forgot about the precondition, so it's technically a temporary Missing Precondition).

Classification: Violated Precondition (or Missing Precondition).

[E] Let's now define a KBD macro. For this one, start at the top of the file. Now, open (or "start remembering") the macro by typing ∧X (....

[U] ∧X("is not allowed in safe mode 2".

[E] Oh, ... my mistake. Most sorry.

49. **Source:** Emacs

Description: E tries to give U a more optimal procedure, but E's procedure has a violated precondition in it (same as last example).

Classification: Optimization, then Violated Precondition (or Missing Precondition).

[E] Now save the [file] (∧X ∧S), and call a DCL subjob to compile it.

[U] What happened to ∧Z to save files?

[E] Oh. You COULD leave EMACS to do it, but it's nicer to call a subjob which you can return to. Try the EMACS subjob thing: Call it with ∧X ∧D and when you want to return, type ∧Z. Mind you, DON'T type any ∧Ys in the subjob or else you'll lose EMACS TOO.

[U] I cannot execute ∧X∧S in safe mode 2!

[E] Aw... My fault. Go ahead and ∧Z. Compile and see if it runs.

50. **Source:** Other-systems/joshi

Description: Different responses to same query in different situations. Situation with E4 is not even a misconception. In situations with E1, E2, E5, E6, and E7, U is trying to do an impossible step.

Classification: #1: Missing Precondition and Substituted Step. #2: Missing Precondition. #3: Extra Step. #4: no misconception. #5–7: Violated Precondition that may hold in the future.

[U] I want to drop CIS577. [Intended goal of not failing]

[E1] You can't drop CIS577, but you can change your status to audit.

[E2] You can't drop CIS577; there isn't anything you can do to prevent failing.

[E3] You can drop CIS577 by .... However, you will still fail.

[E4] You can drop 577 by .... That is the only way to prevent failing.

[E5] You can't drop 577. If e occurs, you will not fail 577, but e is unlikely.

[E6] You can't drop 577. However, e is likely to occur, in which case you will not fail 577.

[E7] You can't drop 577. If e were to occur, which is (un)likely, you could a and thus not fail 577.

51. **Source:** Other-systems/joshi

Description: E doesn't even bother answering U's original question, since there's a better way to go.

Classification: Optimization.

[U] How do I get to Marsh Creek on the Expressway?

[E] It's faster and shorter to take Route 30....

52. **Source:** Other-systems/mccoy

Description: Slightly different type of query than what I usually handle, because U is providing more info. This would probably show up as a Violated Binding (or possibly a Missing Precondition). But it's really more object-based than plan-based.

Classification: Violated Binding (or Missing Precondition).

[U] I was wondering if you could help me. My husband and I have saved up our money over the years so that we will have it in case of an emergency. I am just not sure that we have invested wisely.

[E] Well, where do you have your money?

[U] We have it in a money market certificate so we can get to it right away.

[E] But you can't get to your money in a money market certificate. Your money is tied up in a certificate. Do you mean a money market fund?

53. **Source:** Other-systems/mccoy

Description: The misconception here is really more object-based than plan-based. Best guess would be an extra step of paying penalty on T-bill. E actually gives a corrected binding for the answer, even though T-bills are fine for the user's actual plan.

Classification: Extra Step (could also be Violated Precondition).

[U] I am interested in investing some securities to use as savings instruments. I want something short-term and I don't have a lot of money to invest so the instrument must have small denominations. I am a bit concerned about the penalties for early withdrawal. What is the penalty on a T-bill?

[E] Treasury Bills don't have a penalty. Were you thinking of a Money Market Certificate?

54. **Source:** Other-systems/mccoy

    Description: Same as last example. But we get a different correction here.

    Classification: Extra Step (or Violated Precondition).

    [U] I am interested in investing in some securities. Safety is very important to me, so I would probably like to get something from the government. I am a bit concerned about the penalties for early withdrawal. What is the penalty on a T-bill?

    [E] Treasury Bills don't have a penalty. Were you thinking of a Treasury Bond?

55. **Source:** Other-systems/pollack

    Description: U thinks he has the wrong number (Violated Binding). E doesn't bother to find out, because there's a Violated Precondition that makes that particular binding invalid anyway (how do we know this?).

    Classification: Violated Precondition.

    [U] I called Kathy 10 times at least. The phone is always busy! Do I have the right number? Maybe you can give it to me again.

    [E] I don't know why the number at the hospital is always busy, but in any case, Kathy's at home now. Her number there is (xxx) xxx-xxxx.

56. **Source:** Other-systems/pollack

    Description: Not sure how this one fits into my classification. The goal is impossible to achieve (at least this way), and we probably wouldn't have an explicit plan for protect-from-sys-mgr in our hierarchy. My guess would be that there would be a plan to set the protections, and a precondition about the sys-mgr (although it's not really a precondition). Other way would be to have a separate plan of protect-from-sys-mgr, with alts like encrypt, but then E would have said something about them.

    Classification: Missing Precondition

    [U] How can I protect my mail messages? I don't want the system manager to be able to read them.

    [E] Even if you set the protections, the system manager can override them.

57. **Source:** Other-systems/pollack

    Description: U can't scroll with this type of terminal, but it doesn't matter because he can just refer directly to the current message.

    Classification: Missing Precondition on terminal type.

    [U] How can I scroll up and down in mail? I usually forget what number mail I'm looking at and if the info I need is off the screen, I can't get to it easily.

    [E] Unless your terminal lets you scroll back and forth, ... Mail can't do anything about the scrolling for you. However, the last message you were working with ... is called the "current message". Mail lets you refer to the current message without knowing its number.

58. **Source:** Other-systems/pollack

    Description: U doesn't understand how "copy" works; he thinks it always creates a new file, when in fact it does exactly what he wants it to.

    Classification: Substituted Step(add/delete).

    [U] Is there any way to append a mail message to the end of an existing file instead of having it written to a new file using COPY? Sometimes I like to store away a series of messages in a single file....

    [E] 'copy' does append to a file if it already exists for exactly the reason you mentioned.

59. **Source:** Other-systems/pollack

    Description: U wants to change starting date, but it's set automatically from the subscription date. Impossible step.

    Classification: Extra Step.

    [U] I'd like to take advantage of the discount offer you sent me, and subscribe to your magazine. How can I specify that I don't want the magazines to start arriving until October, since I'm going to be moving before then?

    [E] Sorry, you can't do that. To get the discount rate you have to take the subscription before August 31st, and once you take it, the magazines will start arriving automatically within 3 weeks.

60. **Source:** Other-systems/pollack

    Description: plan is legitimate, but it would be better to switch the order (optimization, possibly involving multiple goals).

    Classification: Optimization.

    [U] ...I'll take Fundamental Algorithms next semester, so ... I thought I'll take Operating Systems or some other course this semester.

    [E] You can do that except Fundamental Algorithms is a 3000 level prerequisite so usually it makes sense to take this course before the electives.

61. **Source:** Other-systems/pollack

    Description: U has the wrong track number. But it would be very unlikely that there is a specific plan for this.

    Classification: Violated Binding.

    [U] Track eleven?

    [E] ... What do you want to go to track eleven for?

    [U] There's an employment office there....

    [E] CP Employment is behind gate nine.

62. **Source:** Other-systems/quilici

Description: U actually has two errors in his plan: the regexp for "grep" has to be quoted, so he should have piped through "grep "[0-9]"" (Violated Binding). And that won't just list files that begin with a number; it will list all files whose name *contains* a number (Substituted Step(add/delete)). But E didn't see any of that. He just told U to use a correct plan because E thinks it's more efficient.

Classification: Optimization (but actually Substituted Step and Violated Binding).

[U] To list files whose names begin with a number, I pipe "ls" to "grep [0-9]".

[E] Use "ls [0-9]*" instead. It is more efficient.

63. **Source:** Other-systems/quilici

Description: U doesn't understand how "ls" works.

Classification: Substituted Step.

[U] I tried to display my file with the "ls" command but it just printed the file's name.

[E] The "ls" command is not used to display the contents of files, the "more" command is. "ls" is used to list the names of your files.

64. **Source:** Other-systems/quilici

Description: U knows that directory has to be empty (so correct precondition), and also knows that it's been violated. He tries to verify the precondition with "ls", but doesn't know that it might miss some of the files. So Substituted Step (should use "ls -a" instead of "ls").

Classification: Substituted Step.

[U] I tried to remove my directory and I got an error message "directory not empty". But "ls" didn't list any files.

[E] Use "ls -a" to list all of your files. "ls" cannot be used to list all of your files because "ls" does not list those files whose names begin with a period.

65. **Source:** Other-systems/quilici

Description: U thinks he has to own the file, when instead he has to have write permission on the directory.

Classification: Substituted Precondition.

[U] I tried to remove a file with the "rm" command. But the file was not removed and the error message was permission denied. I checked and I own the file. What's wrong?

[E] To remove a file, you need to be able to write into the directory containing it. You do not need to own the file.

66. **Source:** Other-systems/quilici

Description: Need to own directory to make it writable (this is definitely violated, but unclear whether U knows it needs to be satisfied. So could either be Violated or Missing).

Classification: Violated Precondition or Missing Precondition.

[U] How do I make that directory writable? ... "chmod+w" prints the error message "permission denied".

[E] To make a directory writable, you need to own it.

67. **Source:** Other-systems/quilici

Description: U has wrong precondition. From the earlier dialogue (the previous two examples), it seems that U overgeneralized that he always needs to own the directory. But he actually only needs to own it when he doesn't have write permission. This will probably show up as a violated (substituted) precondition, and he may represent it as the correct precondition, but at the wrong level in the hierarchy.

Classification: Substituted Precondition (Overgeneralization).

[U] So to remove a file, I have to own the directory that contains it.

[E] No, to remove a file, you need to have write permission on the directory that contains it. You do not need to own the directory that contains it. You need to own that directory when you do not already have write permission on it.

68. **Source:** Other-systems/quilici

Description: U thinks he has to remove a file in order to create a file (presumably on a full system), but he actually only has to have more space, which can be done by removing a file or by doing other things. So he's removing an alt node and moving one of the children up one level (pruning all the other children).

Classification: Missing Step(alt).

[U] So I have to remove a file to create a file?

[E] You do not have to remove a file to create a file. You must have enough free space. Removing a file is only one way to obtain it. You could also ask the system administrator for more space.

69. **Source:** Other-systems/quilici

Description: U is mistaken about the effects of hitting the up arrow key.

Classification: Substituted Step(add/delete).

[U] I accidentally hit the up arrow key and it deleted 20 unanswered mail messages. How can I get them back?

[E] Hitting the up arrow does not delete your messages, but does result in your being disconnected from the etherplexer. You could not access your mail messages because they were moved to "mbox".

70. **Source:** Personal

Description: My canonical example, part 1. Fellowships aren't exempt, and exempt income shouldn't even be listed at all.

Classification: Violated Precondition and Extra Step.

[U] I'm trying to fill out my 1040 income tax form. Where should I list the exemption for my fellowship?

[E] Fellowships are not exempt any more. Fellowships are listed on line 21, and you shouldn't list exempt income at all.

71. **Source:** Personal

    Description: My canonical example, part 2. U is either confused about the type of form (1099 vs W2) and is missing a precondition (about Brown), or thinks that his fellowship is earned income, which *does* get a W2 form.

    Classification: Either Violated Binding (1099/w2) and Missing Precondition (univ isn't Brown), or Substituted Step (wages/fell).

    [U] I'm trying to fill out my 1040 income tax form. Where do I get the W2 form for my fellowship?

    [E] First of all, you want a 1099 form, not a W2 form. And secondly, Brown University doesn't give 1099 forms this year.

72. **Source:** Personal

    Description: My canonical example, part 3. Contrived.

    Classification: Missing Precondition.

    [U] I'm going to call the IRS up right now and complain. What's their number?

    [E] Well, the number is 1-800-IAM-POOR, but it's 3:00 in the morning and no one will answer now.

73. **Source:** Personal

    Description: Variation on my canonical example, part 3. Contrived.

    Classification: Violated Precondition.

    [U] I'm going to call the IRS up right now and complain. What's their number?

    [E] Well, the number is 1-800-IAM-POOR, but it's 5:05 pm and their office just closed.

74. **Source:** Personal

    Description: Real U statement, contrived E response. U thinks he should be filling in the amount from this year's state tax form for the federal Schedule A, but he only needs to fill in the amount that was withheld from his paychecks.

    Classification: Violated Binding or Substituted Step.

    [U] On Schedule A, the line for state income tax had me confused the first time I tried to fill it out. I thought I should put down the amount I was going to pay the state once I filled out the state form. BUT you can't fill out the state form until you finish the federal form.

    [E] You're supposed to enter the amount that was already withheld, not the amount you actually have to pay. It's on your W2 form.

75. **Source:** Personal

    Description: Self-diagnosed. Actual missing precondition.

    Classification: Missing Precondition.

    [U] I also inherited an IRA from my mother and wanted to roll it over into my own IRA account. I found out from the bank, where I tried to do it, that only spouses can roll over IRAs and they must do it within 60 days of receiving the payout from the IRA.

76. **Source:** Personal

    Description: Contrived example. U thinks he can use the 1040A form, but he can't because of his misc income.

    Classification: Missing Precondition.

    [U] I need to do my taxes. Where do I get the 1040A form?

    [E] You can't use the 1040A form. Even though you make under $50,000, you need to declare the $2000 lottery prize that you won, so you need to use the 1040 form.

77. **Source:** Personal

    Description: Contrived example, not in conversational form. This one is probably a substituted precondition instead of a violated one.

    Classification: Substituted Precondition (for using 1040A).

    [U] I need to do my taxes. Where do I get the 1040A form?

    [E] You can't use the 1040A form. You need to use a 1040 form because of the income from your investments.

    [U] But the tax book says I can declare dividend income on form 1040A!

    [E] Yes, but your income is from capital gains, not from dividends, so you need form 1040.

78. **Source:** Personal

    Description: Real example, but not in conversational form. Self-diagnosed.

    Classification: Extra Precondition.

    [U] I was doing my New York State taxes, and I didn't fill in my NYS household tax credit because I thought I needed to have a household.

79. **Source:** Personal

    Description: Contrived example, not in conversational form. U thinks form 4868 (for late filing) will let you pay later.

    Classification: Extra Step.

    [U] I needed an extension on my income tax, so I filed Form 4868. I thought it would give me an extension for *paying* my taxes, but it only gives me a 3-month extension on *filing*.

3 Queried examples

80. **Source:** Newsgroup/assistantship

    Description: U is unsure of the definition of "qualified", so doesn't know how to satisfy the requirement. He doesn't have the alternative plan of doing consulting.

    Classification: QUERY. Missing Step(alt).

    [U] I am paid as a Research assistant, on my way to a Ph.D. in computer science. I want to know, can I itemize the tuition and fees as educational expenses? I did this last year, but now I'm not so sure that my education is considered "qualified", since the education will get me a Ph.D. and could be considered qualifying me for a new trade or business.

    [E] Do some consulting in your field. You will then have self-employment income (on which you'll have to pay self-employment tax on top of income tax), and you can list your occupation as "Consultant". Include with your tax return a supplementary note to Schedule C that says something like "My effectiveness as a consultant in the field of (whatever) is improved by my research into (whatever), and a Ph.D. degree will enhance my desirability as a consultant. However, a Ph.D. is not a requirement for consulting." That should do it – you're not getting the degree to qualify you for a new business.

81. **Source:** Newsgroup/assistantship

    Description: Can reword to get E2 pointing out Missing Step on the phrasing of the letter. E1 looks like he's pointing out potential problems, but I'm not sure how to classify them.

    Classification: QUERY. Missing Step.

    [U] I was told that according to an IRS Revenue Ruling 75-280, if someone was supported on a stipend prior to Aug. 17, 1986 and meet the following criteria: ... it is advisable to get a letter from your department verifying that you meet the three requirements listed above. Does anyone know if this applies to 1988 as well?

    [E1] This is fine for grants that meet the above criteria. However, many research assistantships these days are newer than the 8/86 date above and thus no grandfather clause applies to them. There is also a big difference between fellowships (tuition excludable) and assistantships (tuition deductible). But only if the education is QUALIFIED. A number of people have told me that they believe it is, and a number have said that it is not.

    [E2] I found that unless the letter had the explicit phrase: "the work performed was required for the degree and is/was required of all graduate students" [it cannot be declared exempt].

82. **Source:** Newsgroup/capital-gains

    Description: U is confused between income/ capital gain/ pension payout. Question 1 is worded as a precondition (constraint). Last sentence of E2 sounds like Optimization.

Classification: QUERY. E1 points out Violated Binding. E2 points out possible Missing Precondition on alt step as a warning, and Optimization.

[U] In Feb, 1988, I left one company and joined another. The first company paid out my profit sharing and ESOP accounts in cash. Wisely or unwisely, I spent it on a down payment for a house rather than plunking it in an IRA.

At payout time, my prev employer took out 10% which they marked as Federal Income Tax (FIT) on the 1099-R. No state tax was withheld.

1. Is the payout considered income or a capital gain or what?

2. If income, then presumably I should have been taxed at some marginal Federal and state rate. Any reason why the employer failed to do this?

[E1] This payout is called a pension payout and it goes onto line 17b. Because it is a pension payout the employer is required to withhold the 10% penalty from the payment. It is the individual's responsibility to make any estimated payments to IRS for the income.

[E2] The information on the penalty is correct unless you pass one of several tests which allows you to escape the penalty (such as being 59 1/2 years old or disabled). The entire penalty and all current tax on the amount could have been avoided by rolling over the distribution into an IRA or other qualified retirement account.

83. **Source:** Newsgroup/capital-gains

Description: U doesn't think there are different rules for options and stock (and there aren't), but he heard that there might be.

Classification: QUERY. Extra Step(alt).

[U] I don't see why the rules should be different for options than for stock, but I've heard from enough sources to make me really wonder.

[E] The rules are the same for all publicly traded securities. Homes, other personal property, and business property fall under different rules (but still can show up on schedule D).

84. **Source:** Newsgroup/ira-401k

Description: U doesn't distinguish between IRA and non-IRA. E2's response is incorrect; he's confused about tax-deferred vs non-taxable.

Classification: QUERY. Violated Precondition or Missing Precondition (CD must be an IRA to be tax-deferred).

[U] Is the interest from a CD that came due going to be taxable no matter what you do with the (principle + interest)?

[E1] If the CD was in an IRA, then the interest is tax-deferred. If the CD was not in an IRA, then the interest is not tax-deferred.

However, when you put money into an IRA, if you pass the income and pension plan test, then the amount contributed is a tax deduction up to the limit of $2,000 per year or your earned income, whichever is less, regardless of where the money came from.

[E2] If you had the CD as an IRA then the interest is not taxable. If you decided to buy a CD just to get the interest, then yes the INTEREST is taxable, not the principle.

85. **Source:** Radio/insurance

Description: Actually just misleading phrasing. U is switching between full distribution and monthly distribution in his questions.

Classification: QUERY. Substituted Step (full/monthly).

[E] I don't have to take full distribution [of a life insurance policy] at age 70 1/2 no matter where I have it.

[U] Even in a bank?

[E] No place.

[U] You don't have to take monthly ... from a bank?

[E] Whoa - you said monthly.... Now hold it; let's get the words right.... You said at one point you said full distribution, at the other point you said monthly.

[U] I know. Well my question would be: CAN you take a monthly distribution from a bank?

[E] Absolutely.

86. **Source:** Radio/real-estate

Description: U is debating paying off mortgage early, but would lose money.

Classification: QUERY. Optimization.

[U] I have a house that has a mortgage of 15,000 on it at 7.5% interest.... Should I pay that mortgage off with the bank stocks I have... ?

[E] Will they give you a discount if you pay it off?

[U] ... No.

[E] Well if they're not gonna give you a discount, NO WAY I want to see you pay that 7 and a half percent mortgage off.

87. **Source:** Radio/real-estate

Description: U is trying to use capital gains from one house to another, but didn't make the time limit.

Classification: QUERY. Missing Precondition.

[U] I had a house in North Jersey where I lived as a primary residence. Five years ago, I had a house built in South Jersey. I sold the house in North Jersey last year and moved into the house I had build in South Jersey. Now is there any way that I could use the gain from the house in North Jersey toward the house in South Jersey?

[E] The requirement ... is that ... you have an 18 month period in which to move and have the gain postponed. Give me the sequence here. You built a house in South Jersey 5 years ago?

[U] Yes.

[E] Was that rented?

[U] No. I was using it as a summer home.

[E] Ah, then at one time you had 2 homes ... and you merely moved from one home that you owned to another that you owned.

[U] That's right.

[E] I'm sorry.... What happened really is that that house up in Northern Jersey and the house in Southern Jersey were both owned at the same time and in order to do that you've got to be within a short period of time, that's the 18 month period and you didn't have it.

88. **Source:** Radio/taxes

Description: U (or at least U's husband) thinks ss disability might be treated differently from ss pension.

Classification: QUERY. ??? (Overgeneralization).

[U] Beginning in September, I started receiving social security disability payments and our question is: is that reportable income, and if it's reportable is it taxable?

[E] It is neither reportable nor taxable.

[U] I thought that, but my husband wasn't sure whether that just meant social security pension.

[E] Nope anything you get out of social security.

89. **Source:** Radio/taxes

Description: Rephrase, and could be Violated Precondition or Missing Precondition.

Classification: QUERY. Missing Precondition.

[U] On the IRA accounts: you can't deduct them on the Pennsylvania tax return can you?

[E] There is only one situation which you can deduct an ira account in Pennsylvania, and that is the situation where you run a business of your own, have no employees, and have an ira in place of a Keough account; that's the only place.

90. **Source:** Radio/securities

Description: U takes a guess at where to get the money market fund, but guesses incorrectly.

Classification: QUERY. Violated Binding.

[E] Put ... five thousand in a money market fund.

[U] Where do you get those? At the bank?

[E] No. What I'd suggest you do is send a check to the No Load Fund Association.

91. **Source:** Radio/securities

Description: U is surprised that he can still contribute to IRA when he's 65.

Classification: QUERY. Substituted Precondition.

[E] Let's at least save 15% of that $4000 that he earned in his job, and put it in an IRA account.

[U] Can you join the IRA when you're 65?

[E] Oh absolutely; up until ... the year in which you're 70 1/2.

92. **Source:** Other-systems/pollack

Description: U has an impossible extra step that he is trying to perform.

Classification: QUERY. Extra Step.

[U] Is there any way to tell a bboard to load only new messages (I would like to speed up entry into infomac)?

[E] As far as loading only new messages, Mail cannot do this.... I will clean out the infomac bboard (moving old messages to an archive file) so that it will load faster.

93. **Source:** Other-systems/pollack

Description: U is trying an impossible extra step. Don't know if there is any alternative way to achieve his goals, but E doesn't suggest any.

Classification: QUERY. Extra Step.

[U] Is there anyway to dynamically load a file of definitions and commands and have them interpreted by mail? I've wanted to do this so I could have a large file of net addresses and aliases that I would manually load if I wanted to send mail to one of them. I figure this would decrease the startup time for mail, since I would take all the symbol defs out of my mailinit file.

[E] There is currently no way to dynamically load a file of definitions.

94. **Source:** Other-systems/pollack

Description: U is trying to mark a message as read without actually reading it. E informs him that he can't do that (impossible step), but gives him an alternative plan for something slightly different.

Classification: QUERY. Extra Step.

[U] Is there some way to mark messages other than to actually look at them or print them?

[E] I don't quite know what you mean by 'mark a message'? Do you mean, make mail think you've read the message?

[U] Yes, I meant to be able to mark a message as having been read without needing to actually do so.

[E] There's no neat way to mark a message "read" without reading it. It is possible to delete a message without reading it.

95. **Source:** Other-systems/vanBeek

Description: U can enroll in the course he wants, but it is suboptimal because it will violate another goal.

Classification: QUERY. Optimization.

[U] Can I enroll in CS 375 (Numerical Analysis)?

[E] Yes, but CS 375 does involve a lot of FORTRAN programming. You may find Eng 353 (Technical Writing) and CS 327 (AI) to be useful courses.

96. **Source:** Other-systems/vanBeek

    Description: U can enroll in the course he wants, but it won't really do him any good.

    Classification: QUERY. Optimization.

    [U] Can I enroll in CS 572 (Linear Algebra)?

    [E] Yes, but it will not get you further towards your degree since you have already met your 500 level requirement. Some useful courses would be CS 673 (Linear Programming) and CS 674 (Approximation).

97. **Source:** Personal

    Description: Reword so that U really thinks NOW contributions are deductible. Then it would be either a Violated or Missing Precondition (depending on whether U knows that NOW lobbies). Both U and E were actually given by the same person in the original example.

    Classification: QUERY. Violated Precondition or Missing Precondition.

    [U] Is membership in National Organization for Women deductible as a charitable contribution?

    [E] I think no, since NOW lobbies while a Proctor's [Theater] contribution is tax deductible.

4 Non-plan-based examples

98. **Source:** Newsgroup/ira-401k

    Description: U is confused between exempt and deferred. I think E misspoke; should be "lower rate", not "higher rate".

    Classification: PLAN.

    [**U**] The whole point is that IRA interest is TOTALLY exempt from taxes.

    [**E**] There is a world, nay a *universe* of difference between tax "exempt" and tax "deferred" income. Income from an IRA is tax "deferred" (fact), and it is likely (in my opinion) that IRA investors are deferring tax until a date when they will pay tax at a higher rate on the deferred amount.

99. **Source:** Newsgroup/mortgage

    Description: E1 has plan, but E2 is the one that has the misconception, probably Generalization, but not plan-based.

    Classification: PLAN.

    [**E1**] The problem here is that an amount of a debt that is forgiven is taxable income to the debtor. So, if a bank is willing to settle for, say, a $3100 payoff [on a $3600 mortgage], then there is $400 of taxable income (and thus over $100 tax at 28%) due.... The bottom line, and only line, is that the bank is writing off $400 as a bad debt, and any writeoff of a bad debt by one taxpayer is income to the deadbeat.

    [**E2**] That means that if Great Western Bank sells my mortgage to Security Pacific Bank, I have to pay tax on the discount that Great Western gives to Security Pacific. That can't be true.

    [**E1**] No, it is not true, nor did anything I posted ever imply that it could be true. All that I said is if YOU are allowed to pay off YOUR mortgage at a discount, then YOU've to the difference of the balance of the loan minus what you paid.

100. **Source:** Newsgroup/sales-tax

    Description: E1 has the wrong percentages, but not expressed in context of a plan.

    Classification: PLAN.

    [**E1**] For 1988 only 40% of your finance charges (eg credit cards, loans) are deductible. For 1989 it is 0%.

    [**E2**] I believe the 1989 value is 20%, not 0%.... It drops to 10% in 1990, then 0% in 1991.

101. **Source:** Newsgroup/two-state

    Description: This example would be better if we could add an initial question by another U, and make the two responses E1 and E2 (but I don't have anything in the transcripts). One or the other is wrong about the preconditions for residency.

Classification: PLAN.

[E1] The subject of 'which state' is a really thorny one. Long ago, the Supreme Court ruled you must be a residence of exactly one state.

[E2] If my memory is correct, you can have the penalties of residency in 2 states simultaneously.

102. **Source:** Newsgroup/two-state

Description:

Classification: PLAN.

[U] ... In Pennsylvania, municipalities can not tax non residents who work there.

[E] I believe this last statement to be false. The city of Philadelphia has a city wage tax. Every person who works in Philadelphia pays this tax regardless of where they live. In other words if you live in the suburbs, but work in the city, you pay city wage tax!!!

103. **Source:** Newsgroup/two-state

Description: Add more dialogue and make this 2 expert responses. Then plan-based. E2's answer is bad – the entire point is in the last phrase, and the rest is misleading.

Classification: PLAN.

[E1] Unless MA and NJ are different from most states, income is taxed where it is earned regardless of where you live.

[E2] WRONG!!!!!! Almost all states (perhaps all) tax income earned within their borders, whether by residents or non-residents, and all income earned by their residents, whether earned in the state or out. The major exception is RECIPROCITY, where two states (as PA and NJ, but not to my knowledge NJ and MA) agree reciprocally that wages earned by residents of one who work in the other (but usually not interest, etc.) will be taxed only in the state of residence. Other income is subject to double taxation, with the further exception that most states grant a credit for taxes paid to other states.

104. **Source:** Radio/insurance

Description: U got types of life insurance confused

Classification: PLAN.

[E] He can buy 50 thousand dollars worth of insurance ... for about a hundred bucks.

[U] ... If he's buying whole life he's buying it –

[E] Well now wait a minute. Well I'm not talking about whole life–

[U] Well in term.

105. **Source:** Radio/insurance

Description: U wasn't sure what was meant by face value and loan value.

Classification: PLAN.

[E] What is the face value of the policy?

[U] It's uh about $33,000.

[E] And what is the loan value?

[U] 5%

[E] I'm sorry, I didn't state it clearly. How much can you borrow?

[U] The loan value, uh I can borrow $33,000.

[E] You can borrow 33?

[U] Thousand dollars on the policy.

[E] What is the face value of the policy?

[U] ... About 45,000.

[E] Ok. Now you'll be able to borrow 33,000 now.

106. **Source:** Radio/real-estate

Description: U has the wrong term for the loan. E recognizes this, but guesses incorrectly as to the correct binding. Then, after a better description, he gets it right.

Classification: PLAN.

[U] One bank offered me a loan at 16%, 3 year roll over, 3 points.

[E] 3 year roll over?

[U] Right.

[E] You mean a 3 year balloon?

[U] No it's a 3 year roll over, not a balloon.

[E] well what are you rolling it over to?

[U] Well they call it a 3 year roll over, at the end of the 3 years you renegotiate for a new mortgage.

[E] OK they're talking about a 3 year renegotiable mortgage.

[U] Right.

107. **Source:** Radio/taxes

Description: U is questioning, and doesn't have a plan. Rephrase, and could get misconception, but I'm not sure what type.

Classification: PLAN, QUERY.

[U] I see. Now the money market fund and the all saver's certificate: they're not the same are they?

[E] No. A money market fund is a mutual fund; an all saver's certificate is a certificate that you get from your bank which is tax free for federal purposes up to 2 thousand of interest.

108. **Source:** Radio/taxes

Description: E seems to have incorrectly identified the tax that U is talking about (but why would U be talking about property tax with stocks?).

Classification: PLAN.

[U] The question I wanted is on this city tax on the dividends from my stocks.

[E] Right.... The school district income tax.

[U] Yeah.

[E] If you have dividends and you live in the city you're subject to the school district income tax.

[U] Oh yes, I pay the tax on the dividends ... the property tax

[E] Oh you're talking now about the personal property tax. I'm sorry I misunderstood.

109. **Source:** Radio/taxes

Description: Don't quite understand the example. Apparently, E thinks the profit-sharing investment should be getting interest, but it's a special type of investment (a portfolio) that doesn't get interest. So E incorrectly identified the subplan that U was in?

Classification: PLAN.

[U] I have a profit sharing coming to me.... It's invested in a bank.

[E] At what rate?

[U] Well there isn't any rate right now because its only appreciation on whatever the securities that are invested there are.

[E] I'm afraid your not giving me the answer I'm looking for. There has to be some way at which this accumulates interest.

[U] No, it's whatever the interest is on the securities that are in the portfolio.

[E] I see; it's in a portfolio.

110. **Source:** Radio/securities

Description: Not plan-based. U doesn't understand what E means by gains (or securities).

Classification: PLAN.

[E] Have you gains on other securities?

[U] Yes, we have some certificates and real estate.

[E] No, I'm sorry, I'm not making myself clear.... Do you have any paper gains on other stock?

[U] No.

[E] Then this represents all you have?

[U] Yes.

111. **Source:** Radio/securities

Description: U doesn't understand how the withholding tax works.

Classification: PLAN.

[U] Last week on TV, someone mentioned to me that [Donald Regan]'s going to charge 5% on your [savings].

[E] Oh hold on — you're missing it. They are talking about a withholding tax on dividend and interest the same as you have a withholding tax on your salary now. It's not an increase in tax; it's merely a means of collecting it. And part of the reason is that the treasury department suspects that a good deal of that money is unreported.

5 References to plans and other comments

This section contains conversations where the participants demonstrate that they actually view their tasks in terms of plans. Capitals are added for emphasis. There are also a few examples of other relevant comments.

1. **Source:** Newsgroup/capital-gains

   [U] I am strongly considering purchasing a piece of land to build my own home on. My **PLAN** is to buy the vacant land now, and build during the 1989 year. The land owner will carry at 15% down until construction. I currently own a mobile home (which is completely paid off). I intend to sell the mobile home in the spring (for about double what I paid for it 10 years ago) , and then get a construction loan to build on the land. If that **PLAN** succeeds I assume I would not be subject to any capital gains tax since the home cost is substantially higher than the mobile home value. However, if I don't build during 1989 but wait until 1990 or 1991, then I won't have the home purchase to offset the mobile home sale.

2. **Source:** Newsgroup/capital gains

   [U] We are considering buying a new house. We **PLAN** to rent out our present house in which we have lived for almost 8 years.

3. **Source:** Newsgroup/capital-gains

   [U] I purchased a home for $125,000.00. I am going to sell home for $175,000.00. I have added $5000.00 worth of upgrades. I owe $120,000.00 on the home. I **PLAN** on buying a home for $75,000.00.

4. **Source:** Newsgroup/capital-gains

   [E] Be happy the IRS hasn't figured out some way to tax you on the $50,000 of your basis that you are NOT **PLANNING** on reinvesting!

5. **Source:** Newsgroup/foreign

   [U] I **PLAN** to file joint tax returns this year but do not have my wife's social security number as she is a citizen of India and waiting for her Permanent Resident Visa to come here.

6. **Source:** Newsgroup/gift

   [E] If you **PLAN** to give your daughter $10,000 or less there are no tax consequences and no forms to fill out. If you **PLAN** to give between 10K and 20K and your wife consents to the gift, you must fill out some forms but, once again, there are no tax consequences.

7. **Source:** Newsgroup/ira-401k

   [U] I am taking the money from the 401k plan and **PLAN** on putting it into a rollover IRA.

8. **Source:** Newsgroup/mortgage

   [E] ... I have found an old article about loan prepayments and 15 vs 30 year loans. I think it's a great article and I hope it helps to clear some of the **MISUNDERSTANDINGS** I've seen in the past few days in misc.invest.

9. **Source:** Newsgroup/mortgage

   [U] ... We **PLAN** for my fiance to take a 2K IRA deduction (since she is not a member of any pension plan). She will then take the standard deduction. I will itemize, and deduct the points and whatever else (???), and prepay say 2 mortgage payments by mailing the checks on December 30 of this year.

10. **Source:** Newsgroup/small-business

    [U] Thanks for your advice [E1] and [E2]! Your comments helped me to figure out what my next **STEPS** should be.

11. **Source:** Newsgroup/two-state

    [E] Now, all NY tax returns are prepared as if that person was a full-year NY resident and the tax computed on the total income from all sources (both within and without NY). In the final **STEP** one prorates the tax by the percent of NY source income.

12. **Source:** Newsgroup/two-state

    [E] [Some other expert] denies this and has taken the commendable **STEP** of consulting his accountant and brokers.

13. **Source:** Newsgroup/xx-tax-tables

    [E] To figure out your taxes follow these **STEPS**:

14. **Source:** Emacs

    [E] Thus the searching and the changing are independent **STEPS** when defining a macro.

15. **Source:** Emacs

    [U] Well, I went through the **STEPS** you said, but nothing terribly apparent happened.

16. **Source:** Radio/taxes

    [E] If you lock in some high rates you could be conceivably be way ahead; you have to **PLAN** this carefully.

17. **Source:** Radio/securities

    [U] So ... would a cd be my main **GOAL** or a treasury note?

18. **Source:** Radio/securities

[U] My income from disability and social security and all have come to \$1742 a month and that's what I **PLAN** on living on. Then I can take my pension ...

19. **Source:** Radio/securities

    [U] Right now ... unless I want to make myself a major purchase – I'm not **PLANNING** on buying a car or anything like that.

20. **Source:** Radio/securities

    [U] I'm 58 yrs old and **PLAN** to retire at 62 and ... I would like to know the best place [to invest my savings].

21. **Source:** Newsgroup/prepay

    Description: Shows bureaucracy at its best.

    [E] ... However, Subsection (a) of Section 164 of Part VI of Chapter 1B of Subtitle A of Internal Revenue Title of the Internal Revenue Code of 1986 promulgated by the Tax Reform Act of 1986 (Public Law 99-514) –whew! isn't the law wonderful?– says: ....

22. **Source:** Newsgroup/small-business

    Description: Comment on dynamic rule base.

    [E] This just shows you that unless you keep up with the rules, you can get completely screwed. Obviously, the rules have changed significantly, and every situation is different. Unless you are willing to thoroughly research this stuff yourself, the best advice is professional advice!

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