Ranking Senators w/ Bernie Sanders’ Votes

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We’ve done this

Define Problem

Use Bernie Sanders’ votes to compare how liberal other senators are

Find Data

Write a set of instructions

Solution

XML Format

CSVFormat

Computer (spreadsheet)

Make a HUGE spreadsheet table

Vote on bills only!
Last Class: Completed So Far

1. Open the spreadsheet from last class.
2. You should have 2401 rows (Task 3.7)
3. You should have columns through E.
Last Class: enhancing data

• We want a unique identifier for the vote of each bill in this congress.
  – Which two columns together make a unique key?
• Add another column to the table by entering a `vote_id` column in cell F1.

• Write a formula to output `session:vote_number` values for this row.

• Use fill down or copy/paste, if necessary, to apply this formula to all the other rows.

• New column won’t get the nice formatting of previous columns, alas.
Encoding data numerically: easier to process, esp. in spreadsheets

• Add a `numerical_vote` column in cell G1.

• Write a formula to output:
  – 1 if the senator voted Nay
  – 2 if the senator voted Yea
  – 0 for anything else
Decision Trees

\[
\text{vote}_\text{cast} = \text{"Nay"}
\]

1 if the senator voted Nay
2 if the senator voted Yea
0 otherwise
This Class: Summarize data

• For each senator
  – For each vote
    • What was vote?
• Organize in a table whose rows are senators and columns are vote-names
  – Row-column entry is a senator’s vote
  – Row = all votes by senator
  – Column = all votes on this bill
• Do this with a pivot table
What is a pivot table good for?
Pivot table uses

• Restructure data (our use)
• Summarize data (more common use)
  – If our data was 
    salesperson, customer, itemSold, itemCount
  – A “salesperson x itemSold” table could show the **sum** of all sales of this item, or the **max** sale of this item, etc.
We did these things!

Find out what CSV is

XML Format ➔ CSV Format ➔ Make HUGE Table

Import the data we want into spreadsheet

Format the table to get what we want
See anything odd in the pivot table?

- Use Home...Conditional Formatting to color all blank cells red
See anything odd in the pivot table?

- **Use** Format...Conditional Formatting **to color all blank cells red**

- What happened to Chiesa and Lautenberg?
See anything odd in the pivot table?

• **Use** Home...Conditional Formatting to color all blank cells **red**

• **Name** csv_output **RawData**

• **Name** Sheet2 **PivotTable**

• **Make column widths nice:**
  - Home-> Cells-> Format->AutoFit Column Width
Now what?

Compare senators to Bernie
Activity 1-2

• Do Tasks 1 and 2
Are we done?

- We’ve got the similarity between any senator’s voting record and Bernie’s record...
- Isn’t that what we were hoping to produce?
- Who is the least Bernie-like?
- What if we compared to *that* person instead?
- Homework suggests that there could be surprises...