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1 Introduction

CS15 is intended to provide a rigorous (and fun!) introduction to the field of computer science. Unsurprisingly, each student must independently develop a thorough understanding of the material in order to succeed. The course staff evaluates this understanding through assessment of your written work. Grades in CS15 are entirely project and homework based – there are no exams or quizzes. Thus it is imperative that we be sure that your work, the sole basis of your grade, is entirely your own.

This document details what is and what is not acceptable collaboration for CS15. It covers the policies both for interacting with other students and for receiving help from the CS15 TAs. Note that some of the technical terminology used here will likely not be familiar to you – be sure to refer to this document throughout the semester as your understanding broadens.

1.1 Motivation

This policy has been developed with 50 years of experience teaching introductory computer science at Brown in mind. For CS15 specifically, the course staff believes that the most effective way of initially learning software design, implementation, and debugging is through working independently. Our teaching methodology encourages grappling with the material on your own first, then referring to the support of well-qualified TAs if you get stuck. This allows us to fully evaluate students without exams, and additionally means that all help received is correct?avoiding the possibly of inexperienced programmers confusing each other.

Note that that other CS classes in the department (and previous years of CS15) have different collaboration policies. We certainly appreciate the value of partner and team programming for subsequent courses and as the standard working methodology in industry and research environments. Specifically, you can look forward to a more open collaboration policy if you continue with CS16.

1.2 Enforcement

We strictly enforce this policy. Cheating has been a significant problem for the CS department in the past, but because of TA alertness and a software package called MOSS (Measures of Software Similarity), illegal collaboration is easily detected in CS15.

Every year, a number of violations are caught and prosecuted with the university's standing committee on the academic code, nearly always resulting in convictions. A conviction results in a directed No Credit on your transcript, parental notification for a first offense, and typically a semester suspension for a second offense (i.e., two programs in CS15). In addition, Brown is obligated to disclose the existence of a transgression when professional schools (Law, Medical, Business, etc.) request this information.

2 Discussion of Course Material

Importantly, you may absolutely discuss general (i.e., *not assignment-specific*) CS15 concepts with anyone, including other current students. The following falls into this category:

- Going over CS15 lecture slides, our (non-assignment) handouts, Javadocs, etc.
- Discussing object-oriented programming concepts, such as inheritance, interfaces, or polymorphism.
- General syntax questions. For example, “How do I declare an instance variable?”

Note that in each case, any examples used must be from the lectures or your own creativity – you *may not* discuss how even broad design concepts like inheritance pertain to a specific assignment.

3 Written Homework Assignments

You will complete two written homework assignments at the start of the semester, for which no code is written. These are turned in as PDFs. For these assignments, you are allowed to discuss the problems with classmates. You can talk about approaches to the problem and work on whiteboards with others to develop solutions. However, no notes may be taken away from these discussions, all whiteboards must be promptly erased, and solutions should be written up completely individually.

4 Projects

No collaboration is allowed on project-specific details, except for in design discussion. However, you may always discuss general CS15 concepts as outlined in Section 2.

4.1 Design

Collaboration on project design is not allowed, except for during the design discussion for that project under the supervision of your discussion leader TAs. Otherwise, you are not allowed to discuss the classes you will be using in your project, what methods you will be writing, inheritance hierarchies, or any other design components of the program.

4.2 Implementation and Debugging

You may not discuss the implementation and debugging of code for projects with anyone except the course staff. You should not ever view or provide help with a project solution other than your own. You should not discuss program structure, method breakdown, UML diagrams, or pseudocode with anyone except the TAs.

Letting anyone else view your assignments' code, even by accident, is strictly off limits. Whenever you are away from your computer, you should lock your screen or log out. If another student accesses your computer while you are away and uses your code, you are also guilty of violating the collaboration policy. This also applies for printing your code. When you print code, you should go get it immediately. If another student finds your printout and uses your code, you are both in violation of the collaboration policy. Keep track of your papers and dispose of printed out code when you are finished with it. Finally, allowing other students to see the files in your directory is not appropriate. Your file permissions are set by default to make your files visible only to you; do not change file permissions to allow others to access your course materials. Also, do not post your code online in any public forum.

5 Labs

Labs are collaborative. This means that you can work with the students around you to discuss the lab content – in fact, we strongly encourage you to do so. However, you must

produce your own work for the lab; this means you cannot use written work from other students and you must be the author of all submitted work. Students must always work at their own computer during lab.

6 Online Resources

You are encouraged to frequently reference the course website as you complete your assignments. Beyond lecture slides, the website has helpful documentation and supplemental handouts. Any material on or linked to from the course website is acceptable. The official Java resources, including the Javadocs and the Java tutorials hosted on Oracle's website, may be used as well.

In addition, you are permitted to use a search engine to find how to fix specific errors or exceptions, but not broader conceptual solutions or implementations. For example, "NullPointerException" is an acceptable search query, but not "How to Code Tetris." You should never visit sites which provide implementation of code related to the assignments or post questions regarding an assignment to an online forum. Note that it is easy for us to find solutions copied from some web site.

6.1 Piazza

CS15 uses Piazza, an online Question & Answer academic forum. You may use Piazza to ask general concept-oriented questions, clarifying questions for assignment specifications, or logistical questions. These questions must be feasibly answered online and without seeing your code or running the program. This means that code questions are usually unacceptable - if you are getting a specific weird error on one line of code, that's fine, but it is not acceptable to copy and paste in an entire method and ask what's going wrong. This policy is simply because it is nearly impossible for TAs to answer these sorts of questions through Piazza.

Please note that Piazza is meant to supplement TA hours, not replace them. Questions that require more detailed or complicated answers will be referred to TA hours.

Important note: In order to abide by the collaboration policy, we ask that all questions be submitted *privately*. The TA staff will then publicize questions that we feel are appropriate for the general Piazza forum.

Post that will likely be made public after TA approval:

- Clarification questions about project handouts
- Logistical questions
- Questions about lecture concepts
- Questions about specific, pesky JavaFX errors

Posts that are allowed on Piazza, but will stay private:

- Any questions specific to a project, but very narrow in scope.
- Questions about bugs where the solution would reveal project-specific information.

Posts that should not be posted on Piazza:

- Questions that require more than 1-2 lines of code to ask
- Detailed project questions of a large scope (these will be referred to regular TA hours)
- Most debugging questions

6.2 Github, StackOverflow, CourseHero, etc.

You may never copy code or written homework solution from a forum such as Github, StackOverflow, or CourseHero. If you are ever in doubt, ask a Head TA. As we stated in Section 3, it is also against the collaboration policy ever to publicly post any CS15 material on any such site. If you post homework solutions or project implementations publicly, course staff reserves the right to ask you to take it down. For students wishing to show their CS15 project implementations to potential employers, we ask that you only make your code available upon request, and share it privately with the requestor, not publicly.

7 External Resources

In general, you should never discuss the implementation of CS15 assignments with anyone outside the class other than the official, current TA staff. This includes friends, roommates, students in other CS courses, past CS15 TAs, mentors, tutors, etc.

If you believe you have reason to discuss CS15 assignments with *anyone* other than the current TA staff, you must first have it approved by the HTAs.

8 The “Wire Pull” Test

Andy reserves the right to, at any time, ask you to submit to a “wire pull” test. The term comes from electrical engineering?where in collaborative projects, students may be asked to explain the effect of pulling any given wire. In our domain, it means we may ask you to explain any line of code or program-architectural decision. In other words, we can ask you to meet and explain any part of your project code (or other written work) that we deem suspicious or confusing. Thus, you should be able to comfortably explain why you (and you alone) wrote any single line of code.

9 Summary

To sum up our policy, no collaboration of any form is allowed on programming assignments (design, implementation, or debugging), except for during design discussions. On written homeworks (HW1 and HW2 only), you may discuss the assignments as much as you wish but cannot take notes away from conversations, and must write up solutions completely independently. Labs are fully collaborative during your lab section. You may not look at solutions online or search for assignment implementations.

If you fall behind in the course, it would be far better to end up getting an NC for one project or for the course, with the chance to redo it, than to cheat and copy someone else's work, which would almost certainly result in being caught and punished.

10 Conclusion

Any other form of collaboration not detailed in this policy is prohibited, unless first cleared by an HTA. The consequences of breaking this collaboration policy are severe. If you are ever in doubt about whether something is acceptable, please reach out to the TAs before you put yourself in a regrettable position. We believe that this policy is explicit enough to guide your judgment with very little gray area. When we confront a student with a case of suspected violation, an answer of "I didn't know that this is wrong" will not find sympathy.

Follow the policies outlined here and you will never have to worry about the unpleasant consequences. Take pride in fully developing your individual capabilities in this class. Remember, the TA staff is here for the sole purpose of helping you succeed in CS15. You are encouraged to discuss any questions or concerns about the course (or computer science in general!) with the TAs.

Note that the purpose of this policy is to prevent the type of collaboration on written assignments that would violate Brown's Academic Code as it applies to CS15. Our intention absolutely is not to discount the camaraderie and fun that CS15 is known for. You're encouraged to talk to your classmates and friends about your experiences in the course, ranging from how you like this week's lecture material to how great the last skit was. We hope you find CS15 and the entire computer science department to be both welcoming and helpful.

In your first lab session, you will need to sign this policy in order to obtain a CS15 course account.