

Extra Credit

1 Introduction

This homework will cover generic typing, inner classes, integer bit-shifting, ternary operators, instantiating objects with private constructors, polymorphism, and advanced variable shadowing. Additionally, we will explore the importance of code readability by means of extreme contrast, in the context of reverse-engineering and obfuscation.

2 Problem Description

You are given three .java files to do this project: `ECDriver.java`, `O.java`, and `_.java`. You are *only* to modify `ECDriver.java`, do not edit the other two files. You are not allowed to make any additional .java files for this assignment.

For this project, you will complete the main method of `ECDriver.java`, so that the program outputs the following text when run (without the quotes):

“Congratulations, you did it!”

However, when implementing this simple task, you must follow these restrictions:

- All of your code must be inside the main method of `ECDriver.java`
- Your final code may not contain more than one semicolon character (;)
 - By extension, your code should consist only of a single legal Java statement.
- In addition to a single semicolon, you may use any number of these characters (but no others):

- `_` (the underscore)
- `.` (the period, or `'dot'`)
- `(` (the open-parenthesis)
- `)` (the close-parenthesis)
- `,` (the comma)
- `O` (the capital letter `'O'`)

- Any number of whitespace characters.

Homeworks which contain illegal characters will lose 10% for each instance of an illegal character (to a minimum of 0% credit if at least 10 illegal characters are present).

This may seem impossible, but it is not. It can be done by carefully reading and understanding the contents of `O.java`, and `___java`. There are multiple possible ways to complete this assignment within the restrictions outlined above, in fact, there are technically infinitely many solutions. Our solution consists of about 28 lines of code.

3 Checkstyle

Due to the nature of this assignment running Checkstyle will give multiple hundred errors. In this case only, you do not have to fix these errors.

4 Javadoc

While Javadocs are not required for this homework, they will help in understanding what the code actually does. It is highly recommended that you javadoc as much as possible first before beginning the assignment!

5 Tips

- Do not write code that looks like this. Ever.

6 Turn-in Procedure

Submit all of the Java source files you create to T-Square. Do not submit the classes provided to you, any compiled bytecode (`.class` files), the Checkstyle jar file, or the `cs1331-checkstyle.xml` file. When you're ready, double-check that you have submitted and not just saved a draft. Theses files include, but are not limited to:

- `ECDriver.java`

7 Verify the Success of Your Submission to T-Square

Practice safe submission! Verify that your HW files were truly submitted correctly, the upload was successful, and that the files compile and run. It is solely your responsibility to turn in your homework and practice this safe submission safeguard.

1. After uploading the files to T-Square you should receive an email from T-Square listing the names of the files that were uploaded and received. If you do not get the confirmation email almost immediately, something is wrong with your HW submission and/or your email. Even receiving the email does not guarantee that you turned in exactly what you intended.
2. After submitting the files to T-Square, return to the Assignment menu option and this homework. It should show the submitted files.
3. Download copies of your submitted files from the T-Square Assignment page placing them in a new folder.
4. Recompile and test those exact files.
5. This helps guard against a few things.
 - (a) It helps ensure that you turn in the correct files.
 - (b) It helps you realize if you omit a file or files.¹ (If you do discover that you omitted a file, submit all of your files again, not just the missing one.)
 - (c) Helps find last minute causes of files not compiling and/or running.

¹Missing files will not be given any credit, and non-compiling homework solutions will receive few to zero points. Also recall that late homework will not be accepted regardless of excuse. Treat the due date with respect. The real due date is midnight Wednesday. Do not wait until the last minute!