CST8116\_331/2/3 In-Lab Exercise 02

Learning Resources

* PowerPoint Slides, and Microsoft Word documents in lecture notes Week 2.
  + Complete Hybrid 2 to learn how to perform debugging with Eclipse.
* Required reading in Week 2.

Joyce Farrell. 2018. Programming Logic &amp; Design Comprehensive. 9th Ed. Cengage Learning.

- Chapter 2

Cay Horstmann. 2019. Big Java Early Objects. 7th Ed. Wiley.

- Chapter 2

Learning Objectives

1. Be able to debug a program with syntax and logic errors.
2. Utilize variables to store and manipulate user input.
3. Practice the basics of Java programming by creating a simple program that outputs text to the console.

General Instructions:

* **Complete prelab 2 before attending the lab session in order to work on your in-lab task.**
* **Do not use any external resources, such as chatbots like ChatGPT, to complete the in-lab task. If you have any questions or require assistance, please ask your lab professor.**
* **Submit your in-lab tasks during the lab period for assessment, as it will not be considered by the lab professor otherwise.**
* **Make sure that you sign-in on your lab professor’s attendance sheet in order to receive marks for this in-lab exercise.**

Task 1 – Debugging a Java Program (3 points)

1. Download the file **lab02\_33X.java** from the Brightspace located in lab 2 folder.
2. Open the file in your IDE or text editor. This file contains a simple Java program that contains errors. Compile the program. You should get a listing of syntax errors.
3. Write in the submission Word document all the errors you found and corrected.

If you do not use an IDE, you may want to recompile after you fix some of the errors.

**Do not use Eclipse’s suggested fixes. At this stage it can cause further problems in your code that you may be unable to resolve.**

1. Submit your Java code after fixing all the syntax errors.

Task 2 – Testing (3 points)

* After completing Task 1 and all syntax errors are corrected, the program should compile. You need to develop some test data. Use the chart below to record your test data and results when calculated by hand. Note that you may not reach the expected results at this stage.
* Place the completed test plan into your MS Word document.

|  |  |  |  |
| --- | --- | --- | --- |
| Input | Expected Output | Actual Output | Description |
|  |  |  |  |

Task 3 – Java Program (4 points)

* Execute the program using your test data and take note of the results.
* When the output of the program is different from what you expected, this usually indicates a logic error.
* Examine the program and correct any logic errors. Compile the program and execute using the test data again. Repeat until all output matches what is expected.
* Make sure you include programmer comments as discussed in class.
* Take a screenshot of the running program output, include your name in the screenshot and insert it into the word document.
* Submit the final version of your Java file to Brightspace.

Submission Requirements

* Use the provided MS Word Lab Exercise Template as you complete each task.
* You will need to submit your MS Word document and your Java source code file(s).

Grading

|  |  |  |
| --- | --- | --- |
| Criteria | Missing / Poorly Done (0) | Meets Expectations (3 to 4 points as indicated) |
| Task 1: Debugging | Missing / Poorly Done | Point(s): 3  Syntax errors spotted are listed and corrected. |
| Task 2: Testing | Missing / Poorly Done | Point(s): 3  Test plan is filled in with actual and expected output. |
| Task 3: Java Program | Missing / Poorly Done | Point(s): 4  Screen shot shows program execution with student’s information and has programmer comments as per lecture note guidelines. |