

Lab 3

Become accustomed to new syntax and process – conditional statements and random numbers.

In this Lab, you will learn about different conditional statements (if, if-else, if-else if, and switch case), how to write conditions and different operators you use for conditions (such as the syntax for “equals”, “and”, “or”, “greater than”, etc.), and how to generate a random number between a specific range. With the introduction to conditional statements, you will also learn how to create a flowchart to show a program’s flow of logic.

Pre Lab

1. Read Chapter 3
2. Do Self-Check Questions
 - o Focus on the following sections:
3.2 3.3 3.4 3.5 3.6 3.7 3.8
3.9 3.10 3.11 3.12 3.13 3.14 3.16
3. Watch the following videos:
 - o Program Addition Quiz (Video in 3.2)
 - o Program Subtraction Quiz (Video in 3.7)
 - o Use Multi-way if-else Statements (Video in 3.9)
4. Finish the following Exercise Sets:
 - o 3.2 3.3 3.4 3.5
3.6 3.10 3.13 3.14
5. You will also need to know how to make a **flowchart** for Lab 3. Study the flowcharts and how they are created in the Revel Textbook sections: 3.3, 3.4, and 3.5.
Don’t forget to bring your notebook to lab, as you will be required to draw flowcharts as parts of the activities.

Make sure to review the “Key Terms” and “Chapter Summary” frequently and especially before every Lab Session.

In-Lab Activities

You will receive this section during lab. 😊

There will be **Guided Inquiry** questions in chat bubbles located next to various Lab Activities. You must answer these questions for those particular Activities.

Post Lab

Revel Work

6. Chapter 3 Programming Project 1
7. Chapter 3 Programming Project 2
8. Chapter 3 Programming Project 3

Programming Project: Zodiac

Write a program with the class name "ZodiacSigns". The program should have the user input their birth month and birth day. Then, display their Zodiac Sign (Aries, Taurus, etc.), as well as one additional fact about that particular sign.

For the second part, have a randomly generated month and day. Display the Zodiac Sign of this random date.

Submit this to the Post Lab Program Submission area. Upload just the JAVA class file. This can be found from within your project files, under the "src" folder.

Important Concepts

Answer the following question on Canvas. There will be a text submission area for Post Lab 3 – answer this question there.

1. What is the difference between If-statements and switch statements? How would you choose between them?
2. What would happen if you declared a variable inside an if statement block, yet tried to use that variable outside of the braces?