LABORATORY 2.2	
Object-Oriented Programing	
Course Code: CPE 103	**Program:** BSCPE
Course Title: Object-Oriented Programing	**Date Performed:** Feb 01, 2025
Section: 1A	**Date Submitted:** Feb 01, 2025
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Objective/s of the activity:

1. Implement Conditional Statement
2. Utilize Logical Operators
3. Understand Python Assignment Operators and Python Operators

Intended Learning Outcome:

1. Design and implement conditional statements (if, elif, else) to control the flow of a program based on given conditions.
2. Utilize logical operators to construct and evaluate complex logical expressions.
3. Employ Python assignment operators to write concise and efficient code.

Discussion:

Conditional statements in Python (if, elif, else) allow programs to make decisions based on whether conditions are True or False. They control the program flow by executing specific code blocks depending on the evaluation of these conditions. Logical operators (and, or, not) combine or modify conditions to create more complex decision-making. For example, and requires all conditions to be true, while or needs only one, and not inverts a condition.

Assignment operators (=, +=, -=, etc.) simplify variable assignments and operations, improving

code efficiency. For instance, += adds a value to a variable and reassigns the result. Functions in Python can return Boolean values (True or False), which are often used in conditional statements to guide program decisions, enhancing code modularity and reusability.

Materials and Equipment:

1. Desktop Computer with Anaconda Python/Python Colab
2. Windows Operating System

Procedure:

1. Perform the activity using the Jupyter Notebook
2. This activity can be done either locally on Anaconda's Jupyter Notebook or online through Google Collaboratory which offers a free Jupyter Notebook environment for Google Users. IPython Notebook files (.ipynb) that are saved in the Google Drive can be opened on Google Collaboratory. Additional guides are available on the IPython Notebook template file that is provided with this activity.

Supplementary Activity:

1. Create a python program that calculates the grades of at least 3 students in UCC Grading System.

Conclusion:

In conclusion, the use of conditional statements, logical operators, assignment operators, and Boolean return values in functions greatly enhances Python programming by providing flexible decision-making and simplifying code. These tools allow for efficient control flow, the ability to combine conditions, and concise variable manipulation, making programs more readable and functional. Understanding how to use these concepts effectively helps in developing robust and logical applications.