UNIVERSITY OF CALOOCAN CITY

Caloocan, 1400 Metro Manila, Philippines

COLLEGE OF ENGINEERING

Computer Engineering

2nd Semester, School Year 2024-2025

Laboratory Activity No. 3.1	
Introduction to Object-Oriented Programming	
Course Code: CPE103	**Program:** BSCPE
Course Title: Object-Oriented Programming	**Date Performed: Feb 1, 2025**
Section: BS CpE 1A	**Date Submitted: Feb 5, 2025**
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1. Objective(s):

Implement literals and variables in a python program.

2. Intended Learning Outcomes (ILOs):

The students should be able to:

1. Write a simple program implementing literals and variables.
2. Use comments and identify keywords from identifiers created by users.

3. Discussion:

Variables: These are used to store data that can change during the program's execution. Think of them as containers that can hold different values. For example:

Python

```
name = "Alice"
age = 30
age = 31  # Value can be changed
```

Constants: These are also used to store data, but by convention (not a strict rule in Python), they are intended to hold values that should not be changed. We typically name them using all capital letters to indicate this intention. For example:

Python

```
MAX_VALUE = 100
PI = 3.14159
```

Literals: These are the actual, fixed values that appear directly in your code. They represent concrete data. Examples include:

Python

```
10  # Integer literal
3.14  # Floating-point literal
"Hello"  # String literal
True  # Boolean literal
[1, 2, 3]  # List literal
```

4. Materials and Equipment:

Desktop Computer with Anaconda Python/Python Colab Windows Operating System

5. Procedure:

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I started with asking for the name "Enter student's name:" using a variable and an input inside it which will automatically print the string I put in it and ask me to input a string which will be then the value of the variable I put it into.

```
name1 = input("Enter the student's name: ")
print("\n")
```

After that, I asked for the prelim, to final grades with its exam, hands on activities, quizes, and assignments, then I used it to solve for the class standing and grade.

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```
print("Enter the student's Prelim first:") #asks for Prelim details
prelim_exam = float(input("Prelim Exam score (out of 100): "))
prelim_hoa = float(input("Hands-on Activities score (out of 100): "))
prelim_quiz = float(input("Quiz score (out of 100): "))
prelim_assignment = float(input("Assignment score (out of 100): "))
prelim_cs = 0.5 * prelim_hoa + 0.3 * prelim_quiz + 0.2 * prelim_assignment
prelim_grade = 0.5 * prelim_exam + 0.5 * prelim_cs
print(f"Calculating {name1}'s Prelim Grade...")
print("\n")

print("Enter the student's Midterm:") #asks for Midterm details
midterm_exam = float(input("Midterm Exam score (out of 100): "))
midterm_hoa = float(input("Hands-on Activities score (out of 100): "))
midterm_quiz = float(input("Quiz score (out of 100): "))
midterm_assignment = float(input("Assignment score (out of 100): "))
midterm_cs =(0.5 * midterm_hoa) + (0.3 * midterm_quiz) + (0.2 * midterm_assignment)
midterm_combined = 0.5 * midterm_exam + 0.5 * midterm_cs
midterm_grade = (1/3) * prelim_grade + (2/3) * midterm_combined
print(f"Calculating {name1}'s Midterm Grade...")
print("\n")

print("Enter the student's Final:") #asks for Final details
final_exam = float(input("Final Exam score (out of 100): "))
final_hoa = float(input("Hands-on Activities score (out of 100): "))
final_quiz = float(input("Quiz score (out of 100): "))
final_assignment = float(input("Assignment score (out of 100): "))
final_cs = 0.5 * final_hoa + 0.3 * final_quiz + 0.2 * final_assignment
final_combined = 0.5 * final_exam + 0.5 * final_cs
final_grade = (1/3) * midterm_grade + (2/3) * final_combined
print("\n")
```

After all of those, I displayed all the calculated grade along with the student's name.

```
print(f"Results: {name1}'s Prelim grade is {prelim_grade:.2f}, Midterm grade is {midterm_grade:.2f}, and Final grade
```

Here's the cell link: https://colab.research.google.com/drive/1tDgh3eB52_QHjWRl_-tHt5XRhQePBE3S#scrollTo=Kon2Cb7lh09h&line=35&uniqifier=1

6. Supplementary Activities

Link: https://colab.research.google.com/drive/1tDgh3eB52_QHjWRl_-tHt5XRhQePBE3S#scrollTo=SNfHVyA3DdPc&line=43&uniqifier=1

1. Test 3 students from the program you created.

```
continue_asking = True
while continue_asking: #To loop, so we can test 3 or more students, or more if you choose to
  question = input("Do you want to calculate student's grade? (yes/no): ")

  if question.lower() == "yes":
    print("\n")
    name1 = input("Enter the student's name: ")
```

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2. The program should show the name of the student, the PRELIM, MIDTERM and FINAL grades.

```
name1 = input("Enter the student's name: ")
print("\n")
print("Enter the student's Prelim first:") #asks for Prelim details
print("-----------------------------------------------------\n")
prelim_exam = float(input("Enter Prelim Exam score (out of 100): "))
prelim_hoa = float(input("Enter average Hands-on Activities score (out of 100): "))
prelim_quiz = float(input("Enter average Quiz score (out of 100): "))
prelim_assignment = float(input("Enter average Assignment score (out of 100): "))
prelim_cs = 0.5 * prelim_hoa + 0.3 * prelim_quiz + 0.2 * prelim_assignment
prelim_grade = 0.5 * prelim_exam + 0.5 * prelim_cs
print(f"Calculating {name1}'s Prelim Grade...")
print("\n")

print("Enter the student's Midterm:") #asks for Midterm details
print("-----------------------------------------------------\n")
midterm_exam = float(input("Enter Midterm Exam score (out of 100): "))
midterm_hoa = float(input("Enter average Hands-on Activities score (out of 100): "))
midterm_quiz = float(input("Enter average Quiz score (out of 100): "))
midterm_assignment = float(input("Enter average Assignment score (out of 100): "))
midterm_cs =(0.5 * midterm_hoa) + (0.3 * midterm_quiz) + (0.2 * midterm_assignment)
midterm_combined = 0.5 * midterm_exam + 0.5 * midterm_cs
midterm_grade = (1/3) * prelim_grade + (2/3) * midterm_combined
print(f"Calculating {name1}'s Midterm Grade...")
print("\n")

print("Enter the student's Final:") #asks for Final details
print("-----------------------------------------------------\n")
final_exam = float(input("Enter Final Exam score (out of 100): "))
final_hoa = float(input("Enter average Hands-on Activities score (out of 100): "))
final_quiz = float(input("Enter average Quiz score (out of 100): "))
final_assignment = float(input("Enter average Assignment score (out of 100): "))
final_cs = 0.5 * final_hoa + 0.3 * final_quiz + 0.2 * final_assignment
final_combined = 0.5 * final_exam + 0.5 * final_cs
final_grade = (1/3) * midterm_grade + (2/3) * final_combined
print("\n")
is prints the result from Prelim to Final, and name.
print(f"Results: {name1}'s Prelim grade is {prelim_grade:.2f}, Midterm grade is {midterm_grade:.2f}, and Final grade is {final_grade:.2f}.")
```

3. Convert the final grade into the UCCs numerical grade. Please refer to the grading system.

```
    print("Convert the final grade into UCC letter grade:") #This area converts final grade into letter grade
    if 97 <= final_grade <= 100:
      print(f"{name1}'s grade is 1:00")
    elif 93 <= final_grade <= 96.99:
      print(f"{name1}'s grade is 1:25")
    elif 89 <= final_grade <= 92.99:
      print(f"{name1}'s grade is 1:50")
    elif 85 <= final_grade <= 88.99:
      print(f"{name1}'s grade is 1.75")
    elif 82 <= final_grade <= 84.99:
      print(f"{name1}'s grade is 2:00")
    elif 79 <= final_grade <= 81.99:
      print(f"{name1}'s grade is 2:25")
    elif 76 <= final_grade <= 78.99:
      print(f"{name1}'s grade is 2:50")
    elif 73 <= final_grade <= 75.99:
      print(f"{name1}'s grade is 2.75")
    elif 70 <= final_grade <= 72.99:
      print(f"{name1}'s grade is 3:00")
    else:
      print(f"{name1}'s grade is 5:00")

  else:
    print("Thank you for using the program!")
    break
```

7. Conclusion

Exam results, practical exercises, quizzes, and assignments are all taken into account by this program, which makes it simple to determine a student's grades from Prelim to Finals. In order to provide an accurate final grade, it adheres to a methodical process that makes sure every component is fairly weighted.

Its capacity to manage several students at once is one of its best qualities, which makes it helpful for educators or anybody else who needs to quickly calculate grades. It is even more convenient because it automatically converts the final grade into the UCC letter grading system.

All things considered, this program is a straightforward but efficient method of monitoring a student's academic progress over the course of the term, assisting both students and teachers in identifying areas for growth.

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8. Assessment Rubric: