COME103 / CENG111 Computer Programming I
Lab - 1

4 October 2021

1. TRUE / FALSE QUESTIONS

F T ____Python formats all floating-point numbers to two decimal places when outputting with the `print` statement.

T ____The `\t` escape character causes the output to skip over to the next horizontal tab.

T ____In Python, the first character of a variable name cannot be a number.

2. COMPLETION QUESTIONS: Fill in the blanks.

a) The formatting specifier is a special set of characters that specify how a value should be formatted.

b) When applying the `.3f` formatting specifier to the number `76.15854`, the result is 76.159.

c) Python uses data types to categorize values in memory.

3. ALGORITHM WORKBENCH QUESTIONS

a) Write a Python statement that assigns the product of `10` and `15` to the variable `product`.

b) Assume the variable `sales` references a float value. Write a statement that displays the value rounded to two decimal points.

c) What would the following display?

```
a = 5
b = 2
c = 3
result = a + b * c
print(result)
```

d) What will the following statement display?

```
print('X\tO\tX\nO\tX\tO\nX\tO\tX\n')
```

MULTIPLE CHOICE QUESTIONS

4. What is the output of the following command, given that `value1 = 2.0` and `value2 = 12`?

```
print(value1 * value2)
```

a) `24`
b) `value1 * value2`
c) `24.0`
d) `2.0 * 12`

PROGRAMS

5. A car's miles-per-gallon (MPG) can be calculated with the following formula:

```
MPG = Miles driven / Gallons of gas used
```

Write a program that asks the user for the number of miles driven and the gallons of gas used. It should calculate the car's MPG and display the result.

6. Body mass index (BMI) is an indirect measure of a person's body fat. In SI units (metric system) BMI is defined as the weight in kilograms divided by height in meters squared

$$BMI = (weight\ (kg) / [height\ (m)]^2).$$

For adults, an ideal BMI is between 18.5 and 24.9. A person with a BMI over 24.9 is considered overweight. A person with a BMI under 18.5 is considered underweight.

Write a complete Python program that reads the weight of a person from standard input (keyboard) and height of a person then prints the BMI to standard output (screen).