ME1 Computing- Session 1: Variables and Statements

Learning outcomes:
- Being familiar with the concept of variables and their basic types
- Being familiar with the concept of assignment
- Being able to perform basic variable operations

Please provide feedback at: www.menti.com with code 63 53 57

Before you start
In your H drive create a folder *H:\ME1MCP\Session1* and work within it.

Task A: Perform a list of instructions
1. Perform in Python the following set of instruction:

a = 2
b = 4
c = a + b
a = a + 1
b = a
c = a + b

After any instruction, print and observe the value of each variable.

2. Calculate the value of $z = 3x + y^2$ for x = 11 and *y = -3*.

Answer Question 1

Task B: Assignments and basic variable operations

1. Create a variable *var* and assign the value 3.14 to it. Copy the value of *var* into another variable *varcopy*. Double the value of *var*.

2. Create a variable *MyPints* and assign the value 3 to it. Create another variable *drink2more* with value 2. Increment the value of *MyPints* by the value of *drink2more*. Increment it again (you are getting drunk!).

3. Create a variable *Num* with value 3 and a variable *Den* with value 4. Divide the value of *Num* by the value of *Den* and assign the result to the variable *Res*.

Answer Question 2

Task C: Swapping

1. Create two variables *a* and *b* with values 10 and 5 respectively. Swap their values.

2. Create a third variable *c* with value = 20. Swap *a* with *c* and then *c* with *b*.

Answer Question 3

Task D: Type conversion

1. Assign the value 2 as a string to variable *a* and the value 2 as a number to variable *b*.

2. Add *a* and *b* into variable *f*.

3. Assign the value 3 as a string to variable *c* and the value 3 as a number to variable *d*.

4. Add *a* and c into variable *g*. Add *b* and d into variable *h*.

5. Convert *a* and *c* into numbers and add again *a* and *c* into variable *m*.

Answer Question 4

Answer Question 5