**Unit 11.1 : Programming Basics**

Homework: Week 1 (16 Jan 2023 to 22 Jan 2023)

1. Write pseudocode to declare these variables and constants.

You will need to decide which identifiers are variables and which are constants

[3 Marks].

| **Identifier Name** | **Description** |
| --- | --- |
| height | Stores value input for length of height |
| maxHeight | Maximum height, 25 |
| width | Stores value input for length of width |
| maxWidth | Maximum width, 30 |
| hypotenuse | Stores calculated value of hypotenuse |
| area | Stores calculated value of area |

DECLARE height : REAL

DECLARE maxHeight : REAL

DECLARE width : REAL

DECLARE maxWidth : REAL

DECLARE hypotenuse : REAL

DECLARE area : REAL

OUTPUT “Please enter the height”

INPUT maxHeight

WHILE maxHeight <= 25 DO

OUTPUT” Please enter a positive number”

INPUT maxHeight

OUTPUT “Please enter the width”

INPUT maxWidth

ENDWHILE

WHILE maxWidth <=30 DO

OUTPUT “Please enter a positive number”

INPUT maxWidth

ENDWHILE

hypotenuse — sqrt(maxHeight ^2 \* maxWidth ^2)

Area — maxHeight \*maxWidth

OUTPUT “hypotenuse is”, hypotenuse

OUTPUT “Area is”,area

1. Write Pseudo code to concatenate (join together) two strings (first\_name and set it to

"Bob", last\_name and set it to "Johnson") and saved in another string variable called

full\_name with a space in between them.

[4 Marks]

DECLARE first\_name: string

DECLARE last\_name: string

OUTPUT “Please enter the first\_ name”

INPUT first\_name

WHILE first\_name =“Bob”

OUTPUT “Please enter a first name”

INPUT first\_name

ENDWHILE

WHILE last\_name =“Johnson”

OUTPUT “Please enter a last name”

ENDWHILE

full\_name—first\_name + last\_name

OUTPUT “his name is”,full\_name

1. Convert the Pseudo code in Q2 that you have written above to Python code.

[3 Marks]

first\_name = “Bob”

last\_name = “Johnson”

full\_name = first\_name + last\_name

print(“his name is”,full\_name)