**CSF 2113 Lab 1.1: Python Basics Revision**

**Using Expressions Operators in Python**

1. **Variable Names**

Which of the following are valid/invalid variable names in python

|  |  |
| --- | --- |
| **Variable Name** | **Valid/Invalid** |
| abc | Valid |
| \_abc | Valid |
| abc\_ | Valid |
| 1\_abc\_2 | Invalid |
| 1abc | Invalid |
| \_1abc | Valid |
| if | Invalid |
| False | Invalid |
| false | Valid |
| @abc | Invalid |
| abc@ac | Invalid |
| abc$1 | Invalid |
| while | Invalid |

1. **Expressions and Operators**

Write down the output of the code segments.

|  |  |
| --- | --- |
| **Code Segment** | **Output** |
|  | 6 |
|  | 8 |
|  | -11 |
|  | 5 |
|  | 9 |
|  | 2 |
|  | 0 |
|  | 3 |
|  | 4.6 |
|  | 4 |
|  | 8 |
|  | 7 |
|  | 3.3333335  1  3  0.3  3  0 |
|  | False  False  True  True  False  True  True  False |
|  | invalid syntax |
|  | All told class that "He will be absent tomorrow " |
|  | invalid syntax |
|  | a ) int  b) float  c) string  d) bool |
|  |  |

1. **Write following small programs in Python:**

|  |
| --- |
| 1. Write a Python program that asks the user to enter his name then displays a message on the screen to welcome the user: (See Example Run of a program) |
| Paste the code/screenshot here |
| 1. Get the following inputs from the user: first name, last name, age. Then print a message such as:   Greetings Mr. <First name> <Last name>. You are <age> years old. Next year you will be <age>+1 years old. |
| Paste the code/screenshot here |
| 1. Write a program which take marks of three courses as input from user, then calculate and display the total marks of all quizzes. (See Example Run of a program) |
| Paste the code/screenshot here |
| 1. Write a python program which ask user to enter the length and width of a rectangle, then calculate and display the area of the rectangle. User can enter the value in real numbers like 2.15: (See Example Run of a program) |
| Paste the code/screenshot here |
| 1. Write a python program which ask user to enter the radius of a circle, then calculate and display the area and circumference of circle. User can enter the value in real numbers like 2.15:   Area = pi\*r\*r  Circumference = 2\*pi\*r (where pi = 3.14)  (See Example Run of a program) |
| Paste the code/screenshot here |
| 1. The volume of a sphere with radius r is 4/3 πr^3. What is the volume of a sphere with radius 5? The value of π is 3.14159 |
| Paste the code/screenshot here |
| 1. Make a switchboard for a calculator that looks like this:   ------------------------------------------------------------------------------  Type one of the following options:  1 for Addition 2 for subtraction  3 for multiplication 4 for division  ------------------------------------------------------------------------------ |
| Paste the code/screenshot here |

END