Assignment 2 \_ Python basic

1.What are the two values of the Boolean data type? How do you write them?

**Answer -** The two values of the Boolean data type are Trueand **False**, these values represent the binary logic where ‘True’ represents the yes condition and ‘False’ represents the no condition.

Example-

a= True

b= False

If a:

print(“a is True”)

If b:

print(“b is False”)

2. What are the three different types of Boolean operators?

**Answer -** The Boolean operators are logical operator used to perform logical operations on Boolean values (true, false or multiple condition)

There are three Boolean operator-

1- AND  
2- OR

3- NOT

3. Make a list of each Boolean operator truth tables (i.e. every possible combination of Boolean values for the operator and what it evaluate ).

**Answer -**

**AND operator**

| **Operand 1** | **Operand 2** | **Result** |
| --- | --- | --- |
| **T** | **F** | **F** |
| **T** | **T** | **T** |
| **F** | **T** | **F** |
| **F** | **F** | **F** |

**OR Operator**

| **Operand 1** | **Operand 2** | **Result** |
| --- | --- | --- |
| **T** | **T** | **T** |
| **T** | **F** | **T** |
| **F** | **T** | **T** |
| **F** | **F** | **F** |

**NOT Operator-**

| **Operand** | **Result** |
| --- | --- |
| **T** | **F** |
| **F** | **T** |

4. What are the values of the following expressions?

(5 > 4) and (3 == 5) = False

not (5 > 4)= False

(5> 4) or (3 == 5) = True

not ((5 > 4) or (3 == 5)) =False

(True and True) and (True == False) = False

(not False) or (not True) =] True

5. What are the six comparison operators?

**Answer** -

1- Equal to (==)

2- Not Equal to ( !=)

3- Greater than (>)

4- Less than(<)

5- Greater than or equal to (>=)

6- Less than or equal to (<=])

6. How do you tell the difference between the equal to and assignment operators?Describe a

condition and when you would use one.

**Answer** -

**Equality Operator (==):** The equality operator is used to compare two values to check if they are equal. It is used in conditional statements and expressions to evaluate whether two values are the same.

x = 5

y = 5

if x == y:

print("x is equal to y")

**Assignment Operator (=):** The assignment operator is used to assign a value to a variable. It assigns the value on the right side of the operator to the variable on the left side. It does not compare values for equality; instead, it assigns a value to a variable.

x= 5

7. Identify the three blocks in this code:

spam = 0

if spam == 10:

print(“eggs”)

if spam > 5:

print(“bacon”)

else:

print(“ham”)

print(“spam”)

**Answer** -

Output – ham

Spam

8. Write code that prints Hello if 1 is stored in spam, prints Howdy if 2 is stored in spam, and prints

Greetings! if anything else is stored in spam.

**Answer** -

if spam == 1:

print(‘Hello’)

elif spam ==2:

print(‘Howdy’)

else:

print( ‘Greetings’)

9. If your program is stuck in an endless loop, what keys will you press?

**Answer** -If our program is stuck in an endless loop, will press **Ctrl + C or Ctrl + Break key**

10. How can you tell the difference between break and continue?

**Answer** -

**Break statement i**s used to exit or terminate the current loop prematurely, even if the loop condition is not satisfied fully. It is typically used to exit a loop when a specific condition is met or when you want to stop the loop based on some external factor.

**The continue statement** is used to skip the rest of the current iteration of a loop and move on to the next iteration.It is typically used when you want to skip certain iterations of a loop based on a condition, but you want the loop to continue running.

11. In a for loop, what is the difference between range(10), range(0, 10), and range(0, 10, 1)?

**Answer** -

range(10) : range(stop)= Generates a sequence from 0 to stop - 1.

range(0,10) : range(start, stop)= Generates a sequence from start to stop - 1.

range(0,10,1) : range(start,stop,step)= Generates a sequence from start to stop - 1, incrementing by step.

12. Write a short program that prints the numbers 1 to 10 using a for loop. Then write an equivalent

program that prints the numbers 1 to 10 using a while loop.

**Answer** - For i in range(1,11):

Print( i)

\***While** -

i =1

while i < = 10:

print(i)

i =+1

13. If you had a function named bacon() inside a module named spam, how would you call it after

importing spam?

**Answer** -

import spam

spam.bacon()