**PYTHON BASIC ASSIGNMENT – Assignment\_2**

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

Two values include true and false. It is written as ***True*** and ***False*** respectively.

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

a. AND operator

b. NOT operator

c. OR operator

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

AND:

|  |  |  |
| --- | --- | --- |
| A | B | A and B |
| 0 | 0 | 0 |
| 0 | 1 | 0 |
| 1 | 0 | 0 |
| 1 | 1 | 1 |

OR:

|  |  |  |
| --- | --- | --- |
| A | B | A or B |
| 0 | 0 | 0 |
| 0 | 1 | 1 |
| 1 | 0 | 1 |
| 1 | 1 | 1 |

NOT:

|  |  |
| --- | --- |
| A | !A |
| 0 | 1 |
| 1 | 0 |

**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?**

The six comparison operators are: equal to, not equal to, greater than, greater than or equal to, lesser than, and less than or equal to

== -------------------------------------- Equal to

!= ----- ---------------------------------Not equal to

> ---------------------------------------Greater than

>=-------------------------------------- Greater than or equal to

< --------------------------------------- Lesser than

<= -------------------------------------- Lesser 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.**

Equal to operator uses 2 equal symbols (==) whereas Assignment operator uses one equal symbol (=)

Equal to is used for comparison whereas Assignment operator uses it for assigning a variable with a value.

Ex;

1. a = 6 ----------- ----------------------Here we are assigning the value 6 to variable ‘a’
2. if (a == 6) ---------------------------Here we are comparing if the value of ‘a’ is 6

**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')**

**print('spam')**

**Block 1:**

if spam == 10:

print('eggs')

**Block 2:**

if spam > 5:

print('bacon')

**Block 3:**

else:

print('ham')

print('spam')

print('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.**

spam = 10

if spam==1:

print("Hello")

elif spam==2:

print("Howdy")

else:

print("Greetings!")

**9. If your programme is stuck in an endless loop, what keys you’ll press?**

**CTRL+C** should be pressed in case of infinite loop.

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

**BREAK Statement – Stops the loop in which the control is placed**

**CONTINUE Statement – Skips a single iteration in the loop when encountered .**

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

The outputs for all the three range functions remain the same.

range(10) –Only upper bound is mentioned hence the assumption is made from 0 t0 10 in stepsize 1. The upper bound is excluded, hence the range would be 0,1,2,3…9

range(0,10) –Both lower and upper bound is mentioned and the step size is assumed to be 1 as default.

range(0,10,1) – Lower bound , upper bound and step size is mentioned.

**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.**

**FOR loop:**

for i in range(1,11):

print(i)

**WHILE loop:**

i =1

while i<11:

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?**

This function can be called with **spam. bacon()** after importing spam .