## Python Basic Assignment 2

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

**A1: The two values of the Boolean data type are true and false. Boolean expressions use relational or logical operators. The results of Boolean expressions are either true or false.**

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

**A2: The three Boolean operators are: AND, OR and NOT.**

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 ).  
**A3: AND truth table:** Both the statements must be true to get the result as TRUE.

|  |  |  |
| --- | --- | --- |
| **x** | **y** | **result** |
| **TRUE** | **TRUE** | **TRUE** |
| **TRUE** | **FALSE** | **FALSE** |
| **FALSE** | **TRUE** | **FALSE** |
| **FALSE** | **FALSE** | **FALSE** |

**OR truth table:**At least one of the statements must be true to get the result as TRUE.

|  |  |  |
| --- | --- | --- |
| **x** | **y** | **result** |
| **TRUE** | **TRUE** | **TRUE** |
| **TRUE** | **FALSE** | **TRUE** |
| **FALSE** | **TRUE** | **TRUE** |
| **FALSE** | **FALSE** | **FALSE** |

**NOT truth table:**The result will be the opposite of the statement.

|  |  |  |
| --- | --- | --- |
| **not** | **y** | **result** |
| **Not** | **TRUE** | **FALSE** |
| **not** | **FALSE** | **TRUE** |

4. What are the values of the following expressions?

**A4:** (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?

**A5: The six comparison operators are: greater than (>), greater than or equal to (>=), less than (<), less than or equal to (<=), not equal to (! =), 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.

**A6: The assignment operator or ‘=’ operator is used to assign a value to a variable whereas an equal to operator or ‘==’ defines the condition whether the value either side of this sign is equal or not. For example, a = 7, is assignment operator where 7 is assigned to a variable a. Also, 5==3 is an equal to operator which results into value FALSE, as 5 is not equal to 3.**

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')

**A7:**

***spam = 3  
if spam == 10:  
 print('eggs') #Block 1  
if spam > 5:  
 print('bacon') #Block 2  
else:  
 print('ham') #Block 3  
 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.

**A8:**

Spam = int(input(“Enter any number:”))

if spam == 1:  
 print('Hello')  
if spam == 2:  
 print('Howdy')  
else:  
 print('Greetings!')

**Output:**

Enter any number: 1

Hello

Greetings!

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

**A9: If programme stuck in endless loop, we will press ctrl+C.**

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

**A10: Break:** It terminates the entire iteration and exits the loop.   
It is used to stop the loop after the specific condition.

**Syntax:**  
for i in range(0,10):  
 if (i ==8):  
 break  
 print(i)

**Output:**

0  
1  
2  
3  
4  
5  
6  
7

**Continue:** It terminates the current iteration and jumps to the next iteration.  
It is used to skip particular iteration of the loop.

**Syntax:**for i in range(0,10):  
 if (i ==8):  
 continue  
 print(i)

**Output:**

0  
1  
2  
3  
4  
5  
6  
7  
9

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

**A11: Output will be same for all.**0  
1  
2  
3  
4  
5  
6  
7  
8  
9

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.

**A12: Using For loop:**

for i in range(1,11):  
 print(i)

**Using While loop:**

a =1  
while a<=10:  
 print(a)  
 a = a+1

**Output:  
1  
2  
3  
4  
5  
6  
7  
8  
9  
10**

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

**A13:** This function can be called as spam.bacon()