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

**ANS: There are 2 values namely: True and False**

**We get those by using the bool() function.**

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

**ANS: AND , OR , 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 ).

**ANS:**

|  |  |  |
| --- | --- | --- |
| **AND** | **X** | **Y** |
| **0** | **0** | **0** |
| **0** | **1** | **0** |
| **1** | **0** | **0** |
| **1** | **1** | **1** |

|  |  |  |
| --- | --- | --- |
| **ORX** | **X** | **Y** |
| **0** | **0** | **0** |
| **0** | **1** | **1** |
| **1** | **0** | **1** |
| **1** | **1** | **1** |

|  |  |
| --- | --- |
| **X** | **X`** |
| **0** | **1** |
| **1** | **0** |

4. What are the values of the following expressions?

**ANS:**

(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?

**ANS: > greater than**

**< less than**

**<= less than equal to**

**>= greater than equal to**

**== equal to**

**!= not 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.

**ANS: equal to == which is an assignment operator is used when you want to check a condition based on 2 values.**

**Whereas, ‘=’ is just used to assign a value to a variable.**

**Ex: a=2 b=3 c=2**

**a==c -> TRUE**

**a==b -> FALSE**

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')

**ANS:** if spam == 10:

print('eggs')

**-----block-1---**

if spam > 5:

print('bacon')

**-----block-2------**

else:

print('ham')

print('spam')

print('spam')

**---block-3-------**

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.

**ANS: spam = int(input())**

**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?

**ANS: Ctrl+C or CTrl + Z**

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

**ANS: break – when a certain condition is met, it comes out of the loop without further continuation.**

**Continue- when a certain condition is met, it skips that iteration and continues with the loop for the next iteration.**

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

**ANS: range(10)- indicates numbers till 10.**

**Range(0,10)- basically we mention the start, end here start-0, end-10**

**Range(0,10,1)- here we mention start-0, end-10, stride/step-1**

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.

**ANS: for- for i in range(1,10):**

**print(i)**

**while- i=1**

**while (i <=10):**

**print(i)**

**i=i+1**

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

**ANS: spam()**