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

**Ans 1 :** Boolean values are 1) TRUE, 2) FALSE

So, if all condition is correct it is considered as TRUE otherwise FALSE.

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

**Ans 2)** Three different types of Boolean operators are 1) **AND 2) OR 3) 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 3)**

1) Logical AND

|  |  |  |
| --- | --- | --- |
| **A** | **B** | **A and B** |
| TRUE | TRUE | TRUE |
| TRUE | FALSE | FALSE |
| FALSE | TRUE | FALSE |
| FALSE | FALSE | FALSE |

2) Logical OR

|  |  |  |
| --- | --- | --- |
| **A** | **B** | **A or B** |
| TRUE | TRUE | TRUE |
| TRUE | FALSE | TRUE |
| FALSE | TRUE | TRUE |
| FALSE | FALSE | FALSE |

3) Logical NOT

|  |  |
| --- | --- |
| **A** | **Not** |
| TRUE | FALSE |
| FALSE | TRUE |

4. What are the values of the following expressions?

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

**Ans : False**

not (5 > 4)

**Ans : False**

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

**Ans : True**

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

**Ans : False**

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

**Ans : False**

(not False) or (not True)

**Ans : True**

5. What are the six comparison operators?

**Ans 5:**

1. less than (<)
2. greater than (>)
3. less than or equal to(<=)
4. greater than or equal to(>=)
5. equal to(==)
6. 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 6:**

**Assignment operator (=)**: This operator is use to assign the value to some variable for eg :

x = 10 . Here 10 is assigned to x variable.

**Equal to (==):** This operator is used to check if the values for two operands are same or not for eg :

X == Y, if they are same it returns TRUE else it returns 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 7:**

**Block 1 :**

if spam == 10:

print('eggs')

**Block 2:**

if spam > 5:

print('bacon')

**Block 3:**

else:

print('ham')

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 8 :**

spam = 7

if spam == 1:

print("Hello")

elif spam == 2:

print("Howdy")

else:

print("Greeting!")

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

**Ans 9:** CTRL + C

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

**Ans 10**:

**Break:** break statement is used to terminate the loop once the condition is satisfied.

**Continue:** this statement is used to skip the remaining code in the loop.

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

**Ans 11:** All are same, there is no different for range function first parameter shows start value, second parameter shows (end-1) and third parameter shows step.

If only one parameter is there like range(10), here it will take 0 as start and 10-1 = 9 as end and default step is always 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 12** :

**For loop**

for i in range(1,11):

print(i)

**While Loop**

i = 1

while i < 11:

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 13 :**

Import spam

spam.bacon()