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

**Ans** : Two values of the Boolean data type are True & False. We write them as True (1) & False(0) , we use them to check whether a condition is true or not and take further action as per the result.

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

**Ans** : Three types of 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 ).

Ans :

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| AND operator | | |  | OR operator | | |  | NOT operator | |
| A | B | A\*B |  | A | B | A+B |  | input | output |
| 0 | 0 | 0 |  | 0 | 0 | 0 |  | 0 | 1 |
| 0 | 1 | 0 |  | 0 | 1 | 1 |  | 1 | 0 |
| 1 | 0 | 0 |  | 1 | 0 | 1 |  |  |  |
| 1 | 1 | 1 |  | 1 | 1 | 1 |  |  |  |

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?

1. Greater than : >
2. Greater than or equal to : >=
3. Less than : <
4. Less 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** : equal to operators (==) is used to check or verify a particular condition whereas assignment operators (=) is used to assign a value to a variable. Consider 2 examples : 1) a = “Aniket” , 2) type(a)== str . In first example we are assigning value to Variable a, whereas in second example we are verifying whether type of a is string or not.

7. Identify the three blocks in this code:

spam = 0

if spam == 10:

print('eggs') -----------🡪 Block 1

if spam > 5:

print('bacon') ------🡪 Block 2

else:

print('ham')

print('spam') --🡪 Block 3

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.

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

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

**Ans** : break is used to get out of or exit the loop & move towards next statement. Whereas continue is used to skip the statements of current iteration & move towards next iteration of the loop.

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

**Ans** : All of the above range functions have same meaning. Its just different styles of writing the range function. In first type range(10) , final value of range i.e. 10 is given, here first or starting value is considered as 0 by default. In 2nd type range(0, 10), range is defined from 0 to 10 & in 3rd type range(0, 10, 1), the 3rd digit indicates the Step. If not mentioned then by default step is 1. Its basically difference between the 2 consecutive numbers of range.

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 : Using For loop :**

for i in range(0,10):

print(i+1, end=" ")

**Using While loop :**

i=1

while i<=10:

print(i,end = " ")

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.bacon()