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

Ans: Two values of Boolean data types are : True and False

Eg. a=False

print(a) #output : False

Eg. x,y=5,5

print(x==y) #output: True

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

Ans: AND, OR, and NOT are the three different types of Boolean operators.

|  |  |
| --- | --- |
| **X** | **not X** |
| False | True |
| True | False |

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:

|  |  |  |
| --- | --- | --- |
| **X** | **Y** | **X and Y** |
| False | False | False |
| False | True | False |
| True | False | False |
| True | True | True |

|  |  |  |
| --- | --- | --- |
| **X** | **Y** | **X or Y** |
| False | False | False |
| False | True | True |
| True | False | True |
| True | True | True |

NOT Operator

AND Operator OR Operator

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?

Ans: Six comparison operators are:

1. less than (<)
2. less than or equal to (<=)
3. greater than (>)
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: ‘==’ is equal to operator and ‘=’ is assignment operator.

When we want to compare two values or variable then we use equal to (==) operator and when we want to assign any value to a variable the we use assignment operators (=).

Eg. a == b # here we are comparing values of a and be which give true or false.

a = 6 # here we are assigning value 6 to the variable a.

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:**

spam = 0

if spam == 10:

print('eggs') # block A

if spam > 5: # block A

print('bacon') # block A, block B

else: # block A

print('ham') # block A, block C

print('spam') # block A

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.

Program:

spam = 99

if spam == 1:

print(‘Hello’)

elif spam == 2:

print(‘Howdy’)

else:

print(‘Greetings!’)

**Output:** Greetings!

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

Ans: We use CTRL + C when our program stuck in an endless loop.

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

Ans: break keyword brings the control out of the loop or if statement wherever it has been used.

When continue keyword encountered by compiler then it will skip that execution part and put the control in the starting of the loop.

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

Ans: range(10), range(0, 10), and range(0, 10, 1) print the same values i.e. from 0 to 9.

In range(10) compiler will take 0 as default starting value in range function.

In range(0, 10) compiler will start from 0 and run till 9.

In range(0,10,1) compiler will start from 0 and run till 9. It will take very next element as third value is 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.

|  |  |
| --- | --- |
| Program 1: For Loop  for i in range(1,11):  print(i) | Program 2: 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: We use **spam.bacon()** to call this function.