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

Ans: - 0 and 1 are the two values of Boolean data type. It can be written as True for 1 and False for 0.

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 evaluates).

Ans: -

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Input 1 | Input 2 | AND Truth Table output | OR Truth Table output | NOT Truth Table output for input 1 | NOT Truth Table output for input 2 |
| 0 | 0 | 0 | 0 | 1 | 1 |
| 0 | 1 | 0 | 1 | 1 | 0 |
| 1 | 0 | 0 | 1 | 0 | 1 |
| 1 | 1 | 1 | 1 | 0 | 0 |

4. What are the values of the following expressions?

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

not (5 > 4)

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

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

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

(Not False) or (not True)

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 (<), greater than or equal to (> or =), equal to (==), not equal to (! =), less than or 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: - In case of equal to operator, variable is compared to the value passed whereas in case of assignment operator, value is assigned to the variable declared.

Equal to operator –> a==b can be used when a’s value has to be compared with b’s value to check whether both a and b has same values. If a = 5, b = 10, it returns False. If a = 5, b=5, returns True.

Assignment operator -> a=b can be used when b’s value to be assigned as a’s value. If a = 5, b=10, it returns both a = 10 and b=10.

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: -

1st IF block ->

If spam == 10:

print(‘eggs’)

2nd IF block ->

if spam > 5:

print('bacon')

3rd ELSE block ->

else:

print('ham')

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.

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) restart kernel

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

Ans: - Break will come out of the entire loop and exits without executing any statements below it whereas continue will give control directly to the loop without executing any statement below it that might lead to infinite loop execution if increment condition is given below it.

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

Ans: - There is no difference. All 3 refers same.

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 Loop –

for i in range (11):

if i == 11:

break

print(i)

While Loop –

i=0

while i < 11:

print(i)

if i == 11:

continue

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: -

import spam

spam.bacon()

Another way is

from spam import bacon

bacon ()