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

Boolean is a data type used to represent the truth value of an expression. We can write a boolean value in the code using the keywords True and False

a = True

b = False

a and b

O/p - False

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

* The AND operator (&& or “and”) : compares both the expression and returns the output
* The OR operator (|| or “or”) : compares either of the expression and returns the output
* The NOT operator (not) :  It will only reverse the final result of the expression that ***immediately follows***

**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 ).**

AND OPERATOR

* True and True = True
* True and False = False
* False and True = False
* False and False = False

OR OPERATOR

* True or True = True
* True or False = True
* False or True = True
* False or False = False

NOT OPERATOR

* not(True) = False
* not(False) = True

**4. What are the values of the following expressions?**

* (5 > 4) and (3 == 5) - False
* not (5 > 4) - False
* (5 > 4) or (3 == 5)
* not ((5 > 4) or (3 == 5)) - True
* (True and True) and (True == False) - False
* (not False) or (not True) - True

**5. What are the six comparison operators?**

* = = Equal x == y
* != Not equal x != y
* > Greater than x > y
* < Less than x < y
* >= Greater than or equal to x >= y
* <= Less than or equal to x <= y

**6. How do you tell the difference between the equal to and assignment operators?Describe a condition and when you would use one.**

[**The “=” is an**](https://www.geeksforgeeks.org/operators-c-c/)[**assignment operator**](https://www.geeksforgeeks.org/assignment-operators-in-c-c/) is used to assign the value on the right to the variable on the left.

a = 20

b = 10

print(a+b)

**O/p = 30**

**The ‘==’ operator** checks whether the two given operands are equal or not. If so, it returns true. Otherwise it returns false.

a = 30

b = 20

if (a == b):

print("a is equal to b")

else:

print("a is not equal to b")

**o/p a is not equal to b**

**7. Identify the three blocks in this code:**

spam = 0

if spam == 10: #compares if 0 == 10

print('eggs')

if spam > 5: #compares if 0 > 5

print('bacon')

else: # if none condition are true then print below 3 statements

print('ham')

print('spam')

print('spam')

o/p : ham

spam

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.**

x = int(input("The value stored in spam is :"))

if (x == 1):

print("Hello in Spam")

elif (x == 2):

print("Howdy in Spam")

else:

print("Greetings! The content is something else in spam")

O/ p : The value stored in spam is :4

Greetings! The content is something else in spam

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

Stopping  an infinite loop with CTRL + C from the keyboard. Orelse use the break statement which can be used to stop a while loop immediately

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

**Break :** The break statement takes care of terminating the loop in which it is used. If the break statement is used inside nested loops, the current loop is terminated

**Continue:** The continue statement skips the code that comes after it, and the control is passed back to the start for the next iteration.

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

* range(10) takes one argument. : Will get all the numbers staring from ‘0’ but will end at ‘9’ as ‘10’ forms the stop point.
* range(0,10) takes two arguments. : This is an indication of the start and stop point. So all the series of numbers lying between this two range.
* range(0,10,1) takes three arguments. : This is an indication of ‘step’ for iterating in a range given.  Here in this case the iteration will be all numbers ranging from ‘0 to 9’ as ‘10’ forms the stop point with difference will be between one number and the next.

O/p : **0,1,2,3,4,5,6,7,8,9**

**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.**

for i in range(10):

i = i + 1

print(i)

1

2

3

4

5

6

7

8

9

10

i = 0

while i < 10:

i = i + 1

print(i)

1

2

3

4

5

6

7

8

9

10

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

bacon = 1

def spam(bacon):

if bacon == 1:

print("Bacon is present in spam")

else:

print("Bacon is not present in spam")

spam(bacon)

o/ p - Bacon is not present in spam