1. What are the Boolean data type's two values? How do you go about writing them?

There are just two values of type bool: **true and false**. They are used as the values of expressions that have yes-or-no answers. Can also be represented by numerical 1 and 0.

1 represent TRUE and 0 represents FALSE.

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

AND ,OR ,NOT are three Boolean operators in python

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 ).

== Truth Table

| **x** | **==** | **y** | **Returns** |
| --- | --- | --- | --- |
| True | == | True | True |
| True | == | False | False |
| False | == | True | False |
| False | == | False | True |

AND Truth Table

| **x** | **and** | **y** | **Returns** |
| --- | --- | --- | --- |
| True | and | True | True |
| True | and | False | False |
| False | and | True | False |
| False | and | False | False |

OR Truth Table

| **x** | **or** | **y** | **Returns** |
| --- | --- | --- | --- |
| True | or | True | True |
| True | or | False | True |
| False | or | True | True |
| False | or | False | False |

NOT Truth Table

| **not** | **x** | **Returns** |
| --- | --- | --- |
| not | True | False |
| not | False | True |

Truth tables are common mathematical tables used in logic, and are useful to memorize or keep in

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 different types of reference operators?

Types of reference operators are

1. Arithmetic operator
2. Assignment operator
3. Comparision operator
4. Logical operator
5. Identity and membership operators
6. Bitwise operator

6. How do you tell the difference between the equal to and assignment operators?

Generally equal to is described by equality operator “ == “ it is a comparison operator.

“=” is an assignment operator ,it assigns a value to variable.

7. Describe a condition and when you would use one.

Conditional statements are features of a [programming language](https://en.wikipedia.org/wiki/Programming_language), which perform different computations or actions depending on whether a programmer-specified [boolean](https://en.wikipedia.org/wiki/Boolean_datatype" \o "Boolean datatype) *condition* evaluates to true or false. We use conditional statements when we have to execute specific operation when specific conditions are met.

Example : we declare A student PASS a exam only if he gets minimum passing score otherwise fail. In this situation we use conditional statement

8. Recognize the following three blocks in this code:

spam = 0

if spam == 10:

print('eggs') -> This is 1st Block here if condition spam equal to 10 met output will be eggs

if spam > 5:

print('bacon') -> this is 2nd Block here if condition spam greater than 5 met bacon will be output

else:

print('ham')

print('spam')

print('spam')

-> This is 3 rd block when neither of above to conditions met output will be ham spam spam

9. Create a programme that prints. If 1 is stored in spam, prints Hello; if 2 is stored in spam, prints Howdy; and if 3 is stored in spam, prints Salutations! if there's something else in spam.

spam = 5

if spam == 1:

print('Hello')

if spam ==2:

print('Howdy')

if spam ==3:

print('Salutations!')

else :

print("spam")

10.If your programme is stuck in an endless loop, what keys can you press?

There are a few ways to break out of an infinite loop.

1. Use the Break Method

while True:

if condition == True:

break

1. Use the set True, set false method

chk = True

while chk == True:

...

if condition == True:

chk = False

c) Use the Try and except method

while True:

try:

...

except:

break

We generally use ctrl + c to force exit to loop.

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

**Break statement mainly used to terminate the enclosing loop such as while, do-while, for or switch statement wherever break is declared.**

**Continue statement mainly skip the rest of loop wherever continue is declared and execute the next iteration.**

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

**range(10) returns a  sequence of numbers, starting from 0 by default, and increments by 1 (by default), and stops before a specified number.**

**range(0,10) returns a  sequence of numbers, starting from 0 or any other value given as start , and increments by 1 (by default), and stops before a specified number.**

**range(0,10,1) returns a  sequence of numbers, starting from 0 or any other value given as start , and increments by 1 or any other value specified as step, and stops before a specified number.**

**Generally syntax of range :**

**range(start, stop, step)**

13. Using a for loop, write a short programme that prints the numbers 1 to 10 Then, using a while loop, create an identical programme that prints the numbers 1 to 10.

**For loop :**

**x = range(10)**

**for n in x:**

**print(n)**

**While loop**

**i = 0**

**while i <= 10:**

**print(i)**

**i += 1**

14. If you had a bacon() function within a spam module, what would you call it after importing spam?

**Import spam**

**Spam.bacon()**