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

Ans:- **Boolean data type :-** It is used to check the condition. It is has two values True and False.

It is declare by bool keyword and it’s syntax is bool([x]).

Example:- class\_start\_at = 1500

You\_came\_at = 1600

You\_came\_at < class\_start\_at

Output:- False

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

Ans:- **Boolean OR operator:-**The Boolean OR operator is return True when if any input is True else return False.

**Boolean AND operator:-** Boolean AND operator returns False if any input is False else return True.

**Boolean NOT operator:-**Boolean NOT operator requires only one argument and return the opposite argument of it. Like if input is True it returns False & if input is False it returns True.

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:- **Boolean OR Operator Truth Table:-**

|  |  |  |
| --- | --- | --- |
| Input A | Input B | Output A Or B |
| True | **True** | **True** |
| True | **False** | **True** |
| False | **True** | **True** |
| False | **False** | **False** |

|  |  |
| --- | --- |
| Input A | Output A |
| True | **False** |
| False | **True** |

**Boolean NOT operator Truth Table:-**

**Boolean AND Operator Truth Table:-**

|  |  |  |
| --- | --- | --- |
| Input A | Input B | Output A Or B |
| True | **True** | **True** |
| True | **False** | **False** |
| False | **True** | **False** |
| False | **False** | **False** |

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:-

|  |  |  |
| --- | --- | --- |
| Operator | Name | Example |
| == | **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.

Ans:- **Equal To Operator:-** This operator is denoted by a ‘==’. This operator is used for checking the two operands are equal or not. Like when we compare the value of two variable like A and B. Example :- A = 10 & B = 10 here we compare the value of A and B like A == B. This return the true because here the value of A and B is equal .

**Assignment Operator:-** This operator is denoted by ‘=’. This operator is used for a assign a value on the right to the variable on the left. Example:- We assign a 10 to A like ‘A = 10’. Now A hold the 10 in it.

7. Identify the three blocks in this code:

spam = 0

if spam == 10:

print('eggs') :-Block A is started.

if spam > 5: Still Block A.

print('bacon') :- Block B is started inside Block A.

else: Block B is ended inside Block A.

print('ham') :-Block C is started inside Block A.

print('spam') :- Block C is ended inside Block A.

print('spam') :- Block A is Ended.

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 = 0

if spam == 1:

print('Hello')

if spam == 2:

print('Howdy')

else:

print('Greetings!')

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

Ans:- If your programme is stuck in an endless loop then we will press ‘CTRL + C’ to end the loop.

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

Ans:- **Break:-** The **break** statement terminates the whole iteration of a loop. It is used to jump out of a loop. It can be used with loops like for loop, while loop. The break statement is also used in switch statements. It’s syntax:- **break;**

**Continue:-** The **continue** statement skips the current iteration. we use the continue with a switch statement to skip the case. Brings the next iteration early. It’s syntax:- **continue;**

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

Ans:- **range(start, end, step):- this the basic syntax of a range.**

**range(10):-** It’s means it gives the value from 0 to 9 . It exclude the 10 because it stop at 10 and give only 0 to 9.

**range(0, 10):-** It’s also gives the value from 0 to 9 but here we declare the starting point as 0.

**range(0, 10, 1):-** In this expression we also declare the step in the end. Which means it skip the one value while give the result.

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:- **Program that prints the numbers 1 to 10 using a for loop:-**

for i in range(1, 11):

print(i)

**Prints the numbers 1 to 10 using a while loop:-**

i = 1

while (i <= 10):

print(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 can call the bacon() function after importing spam module use a **dot(.) operator** along with a module name .