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

Values of Boolean data types are:

1. True
2. False

It is indicated by the <class '**bool**'> and we can write it in if conditions or any looping statements.

For example:

While True:

//{Code}….

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

There are three different types of Boolean operators. These are as follows:

1. **AND**: We use “AND” when we need only truths in order to complete the execution of the function or the part of code. For example:

If one condition is True then, other condition should be True.

If c >30 AND c <a:

// {code….}

The Code will be executed only if both the conditions are true.

1. **OR**: In this case outcomes that are only the False and False Values are considered as False rest are True as it just checks if any one condition is True from the given Conditions. For example:

If c > 20 OR c=20:

c=c+2

The code inside the loop will be executed when any of the above condition is True.

1. **NOT**: This operator just inverses the values. For example:

C = True

NOT(C)

Output will be “**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).**

1. AND Operator

|  |  |  |
| --- | --- | --- |
| Condition 1 | Condition 2 | Evaluated Value |
| True | True | True |
| True | False | False |
| False | True | False |
| False | False | False |

1. OR Operator

|  |  |  |
| --- | --- | --- |
| Condition 1 | Condition 2 | Evaluated Value |
| True | True | True |
| True | False | True |
| False | True | True |
| False | False | False |

1. NOT Operator

|  |  |
| --- | --- |
| Condition | Evaluated Value |
| NOT (True) | False |
| NOT (False) | True |

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

1. **(5 > 4) and (3 == 5)**
2. **not (5 > 4)**
3. **(5 > 4) or (3 == 5)**
4. **not ((5 > 4) or (3 == 5))**
5. **(True and True) and (True == False)**
6. **(not False) or (not True)**
7. False (as True and False is False)
8. False (as NOT of True is False)
9. True (as True or False is True)
10. False (as Not (True or False) is False)
11. True (as True or False is True)

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

The six comparison operators are:

1. > (Greater Than)
2. < (Less Than)
3. == (Equal to)
4. >= (Greater Than or Equal to)
5. <= (Less Than or 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.**

The Equal to operator is used to check if a particular value is equal to the operand value or not.

The Assignment operator assigns the value to the variable.

For example:

A=5 (assignment Operator)

If A==5: (Equal to Operator)

print(“ Equal to operator is used”)

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

spam = 0 **{Block 1}**

if spam == 10: **{Block 2 Starts ….}**

print('eggs') **{.… Block 2 Ends}**

if spam > 5: **{Block 3 Starts …….}**

print('bacon')

else:

print('ham')

print('spam')

print('spam') **{…... Block 3 Ends}**

**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.**

spam= 0

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?**

Pressing **ctrl+C** stops execution of infinite loop.

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

**break** Statement is used to stop the loop from executing it further whereas **continue** Statement is used to skip a single value (or values) from the loop.

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

There is no difference in all these as these all prints the values from 0 to 9. In other words, these all are same and will return the same value always.

**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 in FOR loop:**

For i in range(1,11):

print(i)

**Program in While loop:**

i=0

while i<10:

i+1

print(i)

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

#defining a bacon function

def bacon():

spam(): //declaring a method name spam in function

print(“hi, this is spam function”)

#Calling the function and method

import bacon

bacon.spam()