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

Ans. The two values of the Boolean data type are True and False, they are used to represent the truth values for eg. 3<4 the output is True and 5>6 the output is False.

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

Ans. The three different types of Boolean operators are ‘and’, ‘or’ and ‘not’ which yield values True or 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 ).

### Ans. Truth Table for and Operation:

| **X** | **Y** | **X and Y** |
| --- | --- | --- |
| False | False | False |
| True | False | False |
| False | True | False |
| True | True | True |

### Truth Table for or Operation:

| **X** | **Y** | **X or Y** |
| --- | --- | --- |
| False | False | False |
| True | False | True |
| False | True | True |
| True | True | True |

### Truth Table for not Operation:

| **X** | **not X** |
| --- | --- |
| True | False |
| False | True |

The above table shows all the possible combinations of Boolean operator and their output.

4. What are the values of the following expressions?

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. The Six different comparison operators are

|  |  |  |
| --- | --- | --- |
| **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. We can tell the difference between equal to and assignment operators by their notation equal to is represented by (==) and assignment operator is represented by(=). For eg. We want to assign a value two variables a and b we will use assignment operator (=) a=15,b=10 and to check whether a is equal to b we use a==b.

7. Identify the three blocks in this code:

Ans.

spam = 0

if spam == 10:

print('eggs')

if spam > 5:

print('bacon')

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(“Enter the value of spam = ”)

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. For keyboard interrupt we will use ctrl+c

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

Ans. Break statement stops the entire process of the loop where as continue only stops the current iteration of the loop.

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

Ans. In a for loop, there is no difference between range(10), range(0,10) and range(0,10,1) they produce the same output.

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. print("Output using for loop")

for i in range(1,11):

    print(i)

n = 1

print("Output using while loop")

while n <=10:

    print(n)

    n=n+1

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

Ans. spam.bacon()