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

Ans- The two different values of the Boolean Data Type is True and False.

These values can be written in the form of AND, NOT, or OR gates.

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

Ans- The three different types of Boolean Operators are:

1. AND Gate
2. NOT Gate
3. OR Gate

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-

1. AND Gate:

|  |  |  |
| --- | --- | --- |
| A | B | A AND B |
| FALSE | FALSE | FALSE |
| FALSE | TRUE | FALSE |
| TRUE | FALSE | FALSE |
| TRUE | TRUE | TRUE |

1. OR Gate:

|  |  |  |
| --- | --- | --- |
| A | B | A OR B |
| FALSE | FALSE | FALSE |
| FALSE | TRUE | TRUE |
| TRUE | FALSE | TRUE |
| TRUE | TRUE | TRUE |

1. NOT Gate:

|  |  |
| --- | --- |
| A | NOT A |
| TRUE | FALSE |
| FALSE | TRUE |

4. What are the values of the following expressions?

(5 > 4) and (3 == 5)

not (5 > 4)

(5 > 4) or (3 == 5)

not ((5 > 4) or (3 == 5))

(True and True) and (True == False)

(not False) or (not True)

Ans-

(A) (5 > 4) and (3 == 5) : False

(B) not (5 > 4): False

(C) (5 > 4) or (3 == 5): True

(D) not ((5 > 4) or (3 == 5)) : False

(E) (True and True) and (True == False): False

(F) (not False) or (not True): True

5. What are the six comparison operators?

Ans- The comparison operators are:

1. Equal(==)
2. Not Equal(!=)
3. Greater than(>)
4. Less than(<)
5. Greater than or equal to (>=)
6. Less than or 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.

Ans-

We use the equal to operator when we are sure that the variable is equivalent to the value in the right hand side. Whereas we use the assignment operator when we are not sure of the value being equivalent to the value on the right hand side. It is thus a condition of maybe or maybe not and it is used in conditional statements.

# for equal to operator

A = 5

print(A)

#for assignment operator

B=9

if B==8:  
 print(“B is a cube of 2”)

else:

print(“Not a cube of 2”)

OUTPUT: Not a cube of 2

7. Identify the three blocks in this code:

spam = 0

if spam == 10:

print('eggs')

if spam > 5:

print('bacon')

else:

print('ham')

print('spam')

print('spam')

Ans-

The first block is of the condition where spam may or may not be equal to 10

The second block is of the condition where the block will be executed if the value of spam is less than 5.

The third block executes if the first two conditions are not satisfied and provides the output : ham, spam, and 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())

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- Press the Control key together with the C key.

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

Ans-

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, and the flow will continue with the code followed that comes after the loop.

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)?

Ans-

The range(10) provides the compiler with the final index of the range.

The range(0,10) provides the compiler with the starting as well as the final index of the range that is to be printed.

The range(0,10,1) provides the compiler with the starting and final value and it also provides the gap by which the values are to be iterated.

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-

1. Through for loop

for i in range(1,11):

print(i)

1. Through 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- spam.bacon()