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

Ans : The two values of the Boolean datatype are : True and False

We write or assign them as a=True or a=False.

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

Ans : the three different types of Boolean operators are logical and, or, not.

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 logical ‘and’(returns true iff both the values are true) :

|  |  |  |
| --- | --- | --- |
| value | value | Result |
| False | False | False |
| False | True | False |
| True | False | False |
| True | TRue | True |

Truth table for logical-or(returns true if any one of the statement value is true):

|  |  |  |
| --- | --- | --- |
| value | value | Result |
| False | False | False |
| False | True | True |
| True | False | True |
| True | True | True |

Truth table for logical not(Logical not operator work with the single boolean value. If the boolean value is True it returns False and vice-versa) :

|  |  |
| --- | --- |
| value | Result |
| True | False |
| False | True |

4. What are the values of the following expressions?

Ans :

Expression value

(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 comparison operators are :

|  |  |
| --- | --- |
| **Operator** | **Name** |
| == | Equal |
| != | Not equal |
| > | Greater than |
| < | Less than |
| >= | Greater than or equal to |
| <= | 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 : The assignment operator ‘=’ is used to assign the value on the right to the variable on the left.

**example:**

a = 10;

ch = 'y';

In the above examples we are assigning 10 to the variable a and the character y to the variable ch.

The equal to ‘==’ operator checks whether the two given operands are equal or not. If so, it returns true. Otherwise it returns false. used to assign the value on the right to the variable on the left.

Example :

5 == 5

This returns true if the two values are equal. Otherwise, it returns false.

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 :

spam = 0

if spam == 10: #block 1

print('eggs')

if spam > 5: #block 2

print('bacon')

else: #block 3

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("input a spam value:"))

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 : ctrl+c

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

Ans :

Break :

* The interpreter terminates(leaves) the loop when the break encounters.
* useful, if condition always evaluates to be True

example :

for I in range(1,100):

if i>50 :

break

print(i)

it will print upto 50 numbers because when the if condition is true the loop will break.So, from 51 onwards the loop will not print i.

continue :

* jumps for next iteration
* useful, if wants to skip execution of some statement(s) inside the loop for any particular iteration

example :

for i in range(1,20) :

if i%2 == 0;

continue

print i

if the if condition(i%2==0) satisfies then the interpreter omits that number and restart the loop and checks the condition.

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

Ans :

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

range(10) will give a series of numbers that start at o and includes every whole number up to 10, but not including the number 10 as the stop.

range(0,10) will give the series of numbers starting from a particular number that 0 and upto 10,not including 10.

range(0,10,1) will give the series of numbers from 0 to 9, but with a big difference of 1. Like, 0,1,2,3,4,…,9.

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 : for loop :

for i in range(1,11):

        print(i)

while loop :

i=1

while i<=10:

     print(i)

     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()