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

**Ans**: Values of the Boolean data type are **True**, **False**.

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

**Ans**: Three different types of Boolean operators are ‘**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**:

**and operator**:

|  |  |  |
| --- | --- | --- |
| **A** | **B** | **A and B** |
| True | True | True |
| True | False | False |
| False | True | False |
| False | False | False |

**or operator**:

|  |  |  |
| --- | --- | --- |
| **A** | **B** | **A or B** |
| True | True | True |
| True | False | True |
| False | True | True |
| False | False | False |

**not operator:**

|  |  |
| --- | --- |
| **A** | **not A** |
| True | False |
| False | True |

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**:

Less than - <

Less than or equal to - <=

greater than - >

greater than or equal to - >=

equal to - ==

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.

**Ans**:

**Equal to** is used when we need to compare two values/variables and **assignment** operator is used to reduce the right hand side expression into a value then assign it to right hand variable.

**Ex**:

if(5==6) # for equal operator

a = 5 #for assignment operator, here value 5 is assigned to variable a

Both are not same.

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**:

**Block1**:

if spam == 10:

print('eggs')

**Block2**:

if spam > 5:

print('bacon')

**Block3**:

else:

print('ham')

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 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** : break will stop the execution of loops

**Continue**: continue will skip the particular iteration and continue the loop

for i in range(10):

if i%2==0:

continue

if i==5:

break

In the above example, even numbers are skipped and when i value has 5, then loop will stops.

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

**Ans**:

**range(10)** – it will generate the range from 0 to 9(vary based on specified value) automatically.

**range(0, 10)** – it will generate the range from first parameter value i.e., 0 to 9. range(first\_param,second\_param) will generate the ranges from first-param to second\_param-1.

**range(0,10,1)** – it will generate the range from 0 to 9 with step of value1.

Suppose, if step is 2, then the range(0,10,2) generates the values 0,2,4,6,8 by skipping the odd values.

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**:

Using for loop:

for i in range(1,11):

print(i)

Using 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**:

import spam

a=spam.bacon() #syntax for calling bacon function from spam module