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

**Ans.:** Two values of the Boolean data type are True and False. These data types generally use Relational and Logical operators. For example: 3>2 is true whereas 4<1 is false.

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

* AND
* OR
* NOT

1. **Make a list of each Boolean operator's truth tables (i.e. every possible combination of Boolean values for the operator and what it evaluates).**

**Ans.:** Boolean operator truth table:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **A** | **B** | **A and B** | **A or B** | **A not B** |
| True | True | True | True | False |
| True | False | False | True | True |
| False | True | False | True | True |
| False | False | False | False | False |

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

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

**not (5 > 4)**

**Ans.:** False

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

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

**Ans.:** False

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

**(not False) or (not True)**

**Ans.:** True

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

**Ans.:** Six comparison operators are below:

* Less than (<)
* Less than or equal to (<=)
* Greater than (>)
* Greater than (>=)
* Equal to (==)
* Not equal to (!=)

1. **How do you tell the difference between the equal to and assignment operators? Describe a condition and when you would use one.**

* The’==’ is a comparison operator, where we compared the two given operands are equal or not.
* The ‘=’ is an assignment operator, which is used to assign the value on the right to the variable on the left.

**Condition:-**

a=40 Here, I am assigning values to a and b with help of assignment operator.

b=23

if b==a: Here, I am comparing a and b’s value with comparison operator.

print ('b is equal to a')

else:

print('b is not equal to a')

**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 three blocks in the given scenario are as follows:

spam = 0

if spam == 10: **1st Block**

print('eggs')

if spam > 5: **2nd Block**

print('bacon')

else: **3rd Block**

print('ham')

print('spam')

print('spam')

1. **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!')

1. **If your programme is stuck in an endless loop, what keys you’ll press?**

**Ans.:** We can stop an endless loop with Ctrl+C key or when a **break** statement is found in program.

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

**Ans.:** The break statement terminates the endless loop while continue statement skips the current iteration.

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

**10, 1)?**

**Ans.:** Differences are given as below:

* for i in range(10): It will print number up to given maximum

print(i) range number.

Outcome: 0 1 2 3 4 5 6 7 8 9

* for i in range(0, 10): It will print number from minimum to

print(i) maxmimum-1 number.

Outcome: 0 1 2 3 4 5 6 7 8 9

* for i in range(0, 10, 2): It will print (minimum, maximum, step)

print(i) accordingly.

Outcome: 0 2 4 6 8

1. **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 i in range(1, 11): For Loop

print(i)

Outcome: 1 2 3 4 5 6 7 8 9 10

* i=1 While Loop

while(1<=10):

print(i)

i+=1

Outcome: 1 2 3 4 5 6 7 8 9 10

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

**Ans.:** spam.bacon().