1. What are the Boolean data type's two values? How do you go about writing them?

**Answer:** The Boolean Data type’s values are **True** and **False.** We are interested in whether certain conditions like true or false, then we use two values of data type called **Boolean**.

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

**Answer:** The three different types of Boolean operators are:

1. **and**
2. **or**
3. **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 ).

|  |  |  |
| --- | --- | --- |
| True | True | True |
| True | False | False |
| False | True | False |
| False | False | False |

**Answer: BOOLEAN OPERATOR’s TRUTH TABLES**

**AND Operator**

**OR Operator**

|  |  |  |
| --- | --- | --- |
| True | True | True |
| True | False | True |
| False | True | True |
| False | False | False |

**NOT Operator**

|  |  |
| --- | --- |
| 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)

**Answer:**

|  |  |
| --- | --- |
| (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 different types of reference operators?

**Answer:** The six different types of reference operators are:

1. **+=**
2. **-=**
3. **/=**
4. **>=**
5. **<=**
6. **==**

6. How do you tell the difference between the equal to and assignment operators?

**Answer:**

|  |  |
| --- | --- |
| **=** | **==** |
| It is Assignment Operator | It is a Relational or Comparison Operator |
| It is used for assigning the value to a variable | It is used for comparing two values. It returns 1 if both the values are equal otherwise returns 0 |
| Constant term cannot be placed on left hand side. Example: 1=x which is invalid | Constant term can be placed in the left hand side. Example: 1==1 it is also valid |

7. Describe a condition and when you would use one.

**Answer:** Condition is a Statement that are created by programmer in a program which evaluates an action and executes True or False values. Condition perform different computations depending on whether a **programmer –** specified Boolean **Condition** which gives True or False.

8. Recognize the following three blocks in this code:

spam = 0

if spam == 10:

print('eggs')

if spam > 5:

print('bacon')

else:

print('ham')

print('spam')

print('spam')

**Answer:** 1. **Main** Block

2. Two **IF** Block

9. Create a programme that prints. If 1 is stored in spam, prints Hello; if 2 is stored in spam, prints Howdy; and if 3 is stored in spam, prints Salutations! if there's something else in spam.

**Answer: Program**

spam=int(input())

if spam ==1:

print("Hello")

elif spam ==2:

print("Howdy")

elif spam == 3:

print("Salutations")

else:

print("Wrong Input")

10.If your programme is stuck in an endless loop, what keys can you press?

**Answer:** Press **“** CTRL + C” to come out of that infinite loop.

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

**Answer:**

|  |  |
| --- | --- |
| **Break** | **Continue** |
| Break statement resumes the control of the program to the end of loop made executional flow outside that loop. | Continue statement resumes the control of the program to the next iteration of that loop enclosing ‘continue’ and made executional flow inside the loop again |

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

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

|  |  |
| --- | --- |
| **range(10)** | For loop iterates from 0 to 9 |
| **range(0,10)** | Here also for loop iterates from 0 to 9 |
| **range(0,10,1)** | This for loop range also iterates from 0 to 9 |

13. Using a for loop, write a short programme that prints the numbers 1 to 10 Then, using a while loop, create an identical programme that prints the numbers 1 to 10.

**Answer:** FOR LOOP Program

for i in range(1,11):

print(i)

OUTPUT: 1

2

3

4

5

6

7

8

9

10

WHILE LOOP Program

i=1

while i<11:

print(i)

i=i+1

OUTPUT: 1

2

3

4

5

6

7

8

9

10

14. If you had a bacon() function within a spam module, what would you call it after importing spam?

**Answer:** We call the function bacon() within a spam module like **spam.bacon().**