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, False”.**

**We write them in following manner.**

**A=True**

**B=False**

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

**Ans: 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 evaluates).

ANS: 1.AND

|  |  |  |
| --- | --- | --- |
| P | Q | P and Q |
| True | False | False |
| False | True | False |
| False | False | False |
| True | True | True |

2. OR operator

|  |  |  |
| --- | --- | --- |
| P | Q | P or Q |
| True | False | True |
| False | True | True |
| False | False | False |
| True | True | True |

3.NOT

|  |  |
| --- | --- |
| P | NOT P |
| True | False |
| False | True |

4. What are the values of the following expressions?

(5 > 4) and (3 == 5) **Ans: False**

not (5 > 4) **Ans: False**

(5 > 4) or (3 == 5) **Ans: True**

not ((5 > 4) or (3 == 5)) **Ans: False**

(True and True) and (True == False) **Ans: False**

(not False) or (not True) **Ans: True**

5. What are the six comparison operators?

**1. > (Greater Than)**

**2 >= (Greater Than)**

**3. < (Less Than)**

**4. <= (Less Than)**

**5. == (Equals)**

**6. ! = (Not Equals)**

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

**Ans:**

**With the help of assignment operators (=), We can assign a value to a variable and with the help of equal to (==) operator we can compare two values.so == operator gives output only in Boolean data type.**

**A=5 (assignment operator)**

**(4==4) gives output True so equal to gives Boolean data type which in this example is True.**

**So, for equal to is used for comparing values and assignment is used for assigning value to variable.**

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:**

**First Blocks**

**spam = 0**

**if spam == 10: First Block**

**print('eggs')**

**if spam > 5:**

**print('bacon') Second Block**

**else:**

**print('ham') Third Block**

**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.

spam = 0

if spam == 1:

print('Hello')

if 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. If you want to break while or for loop for particular condition, we will use break and if we want to skip some condition, we will use continue**.

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

**Ans.**

**All are same. all will give same output like 0 to 9 values. range (10) assume default value of starting in loop is 0(zero) and step size is 1(one).in range (0, 10) it is mentioned starting value is 0 and here we will take step size is one .in range (0, 10, 1) we provide all value like starting point, end point, step size.**

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(10):**

**print(i)**

**using while loop**

**i=1**

**while i in range(0,10):**

**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**

**spam. bacon()**