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

Ans **: The two values are True and False…**

**We can write it as True/False, 1 or 0, or x = (1==2) …etc**

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

Ans **: The three different Boolean operators are :**

1. **Logical operators**
2. **Comparision operators**
3. **Identity operators**

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 ).

**LOGICAL AND:**

|  |  |  |
| --- | --- | --- |
| P | Q | P AND Q |
| T | F | F |
| T | T | T |
| F | T | F |
| F | F | T |

**LOGICAL OR:**

|  |  |  |
| --- | --- | --- |
| P | Q | P OR Q |
| T | T | T |
| T | F | T |
| F | T | T |
| F | F | F |

**LOGICAL NOT:**

|  |  |
| --- | --- |
| P | NOT P |
| T | F |
| F | T |

**EQUALITY (==):**

|  |  |  |
| --- | --- | --- |
| P | Q | P==Q |
| T | T | T |
| T | F | F |
| F | T | F |
| F | F | T |

**GREATER THAN(>):**

|  |  |  |
| --- | --- | --- |
| P | Q | P>Q |
| T | T | F |
| T | F | T |
| F | T | F |
| F | F | F |

**LESS THAN(<):**

|  |  |  |
| --- | --- | --- |
| P | Q | P<Q |
| T | T | F |
| T | F | F |
| F | T | T |
| F | F | F |

**GREATER THAN OR EQUAL(>=):**

|  |  |  |
| --- | --- | --- |
| P | Q | P>=Q |
| T | T | T |
| T | F | T |
| F | T | F |
| F | F | T |

**LESS THAN OR EQUAL(<=):**

|  |  |  |
| --- | --- | --- |
| P | Q | P<=Q |
| T | T | T |
| T | F | F |
| F | T | T |
| F | F | T |

**IDENTITY(IS):**

|  |  |  |
| --- | --- | --- |
| P | Q | P IS Q |
| ADDRESS1 | ADDRESS1 | T |
| ADDRESS1 | ADDRESS |  |

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?

**Ans : 1… > (greater than)**

**2… < (less than)**

**3…. >= (greater than or equal to)**

**4…….<= (less than or equal to)**

**5….. == (equal to )**

**6……!= (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 : The diffefrence could be identified by concerning the equal to operator(=)..if it’s a single ‘=’ symbol then it’s and assignment operator and if ‘==’ then its an equal to operator…**

**Example:**

**a = 10**

**a = 30 // assignment operator**

**print(a)**

**b = 39**

**if(b==39): //comparision operator**

**print(b)**

7. Identify the three blocks in this code:

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 : 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 or Ctrl + Z or Ctrl + break to terminate the program……(it could cause the loss of data)**

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

**Ans : If we encounter with a break statement then the program terminates at that particular line after executing the break operator…in case of continue operator it skips that particular value/statement and continues to the next statement….**

**Example:**

**for i in range(10):**

**if (i==3):**

**continue; //skips value 3**

**if(i==6):**

**break: //program terminates at value 6**

**else:**

**print(i) // prints values 0,1,2,4,5…**

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

**Ans : Actuall all the three function will print the numbers from 0 to 9…**

**In range(10) : the final value is given but no initial value.**

**In range(0,10) : both the initial and final values are given.**

**In range(0,10,1) : both the initial and final values are given including the step size….//actual syntax**

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+=1**

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

**Ans :**

**from spam import bacon**

**bacon()**

**from spam import \***

**bacon()**