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

**Solution:-** Two Boolean values : True and False

It writes using first letter in uppercase & remaining in lowercase.

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

**Solution:-** Three different types of Boolean operators : 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 ).**

**Solution:-**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| X | Y | X AND Y | X OR Y | NOT X |
| True | True | True | True | False |
| True | False | False | True | False |
| False | True | False | True | True |
| False | False | 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)**

**Solution**:- ( 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?**

**Solution:-** 1. == 2. != 3. <

4. > 5. <= 6. >=

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

**Solution:-**  == is the equal to operator that compares two values and evaluates to a Boolean While, = is the assignment operator which stores value in a 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’)**

**Solution:-** The three blocks are inside the if & if – else statement

First : if spam == 10:

print(‘eggs’)

Second: if spam > 5:

print(‘bacon’)

Third: else:

print(‘ham’)

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.**

**Solution:-** Code:

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?**

**Solution:-** I will press Ctrl – C

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

**Solution:-** break statement breaks the execution of loop from wherever we used it Whereas, continue statement continues the execution of loop from the start .

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

**Solution:-** The all three expressions do same thing with different specific commands.

range(10) it calls numbers from 0 to 9 (excluding upper bound)

range(0,10) it specifically tells the loop to start from 0

range(0,10,1) it explicitly tells the loop to increase the variable by 1 on each iteration.

**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.**

**Solution:-** for loop:

for i in range(1,10):

print(i)

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?**

**Solution:-** I will call it as : spam.bacon()