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

**Sol.** Two values of Boolean data types: **True** or **False.**

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

**Sol.** 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 evaluate ).**

**Sol.**

### AND Truth Table

| **x** | **and** | **y** | **Returns** |
| --- | --- | --- | --- |
| True | and | True | True |
| True | and | False | False |
| False | and | True | False |
| False | and | False | False |

### OR Truth Table

| **x** | **or** | **y** | **Returns** |
| --- | --- | --- | --- |
| True | or | True | True |
| True | or | False | True |
| False | or | True | True |
| False | or | False | False |

### NOT Truth Table

| **not** | **x** | **Returns** |
| --- | --- | --- |
| not | True | False |
| not | False | True |

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

**(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?**

**Sol. ==** (Equal to)**,**

> (greater than),

< (less than),

>= (greater than or equal to),

<= (less than or equal to),

!= (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.**

**Sol.**  Equal to in Python is represented by **==** and assignment operator is represented by **=**

Ex: **a = 5** will assign value **5** to variable a. And == is normally used in comparison eg, **8 == 8** will return **True** while **5 == 8** will return **False.**

**7. Identify the three blocks in this code:**

**spam = 0**

**if spam == 10:**

**BLOCK 1 of code**

**print('eggs')**

**if spam > 5:**

**BLOCK 2 of code**

**print('bacon')**

**else:**

**print('ham')**

**BLOCK 3 of code**

**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.**

**Sol.** spam = int(input(“Enter value: “)

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?**

**Sol.** Ctrl + C

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

**Sol.** The main difference between both the statements is that when **break** keyword comes, it terminates the execution of the current loop and passes the control over the next loop or main body, whereas when **continue** keyword is encountered, it skips the current iteration and executes the very next iteration in the loop.

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

**Sol.** There is no difference between **range(10), range(0, 10), and range(0, 10, 1),** the default values for the parameters **a** and **c** in **range(a,b,c)** are 0 and 1 respectively. For all **range(10), range(0, 10), and range(0, 10, 1)** the loop will execute 10 times starting from 0 to 9 incrementing every time by 1.

**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.**

**Sol. (for loop):**

for i in range(1,11):

print(i)

**(while loop):**

i = 1

while(i<11):

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?**

**Sol.** import spam

spam.bacon()