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

Sol.) The two values of the Boolean data type are “True” and “False”. We write true as “1” and false as “0”.

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

Sol.) The three Boolean operators are “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.) Truth table for “And”

X	Y	And (XY)
1	1	1
1	0	0
0	1	0
0	0	0

Truth table for “OR”

X	Y	OR (XY)
1	1	1
1	0	1
0	1	1
0	0	0

Truth table for “NOT”

X	X’ (NOT)
0	1
1	0

4. What are the values of the following expressions?

Sol.) (5 > 4) and (3 == 5): **FALSE (0)**

not (5 > 4): **FALSE (0)**

(5 > 4) or (3 == 5): **TRUE (1)**

not ((5 > 4) or (3 == 5)): **FALSE (0)**

(True and True) and (True == False): **FALSE (0)**

(not False) or (not True): **TRUE (1)**

5. What are the six comparison operators?

Sol.) Six comparison operators are equal to (=), not equal to (! =), greater than (>), greater than or equal to (>=), less than (<), and less than or 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.) The difference between the operators is that “equal to “operator is used to check the condition of equality and assignment operator is used to assign a value to a variable.

E.g., a= 10 (Here we are assigning value 10 to variable a, hence example of assignment operator)

a==10 (Here we are checking that the variable a contains the value 10 or not, hence example of equal to operator)

7. Identify the three blocks in this code:

Sol.)

spam = 0

BLOCK 1: [if spam == 10:

print('eggs')]

BLOCK 2: [if spam > 5:

print('bacon')]

BLOCK 3: [else:

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.

Sol.) 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?

Sol.) Ctrl + C

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

Sol.) Continue statement bring the control of the loop to the next iteration. Break statement brins the control of the loop to the end of the program.

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

Sol.) In for loop range (10) return value of sequence of numbers between 0 to 9 (here we did not specify the lower bound so it will take lower bound as 0 by default), range (0, 10) also return value between 0 to 9 (Here we specified the lower bound as 0 (we can specify any value as lower bound)) and range (0,10,1) will also return sequence of numbers between 0 to 9, here we specified the step of 1 (can be any).

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.) Using for loop:

```
for i in range (1,11):
        print(i)
```

Using while loop:

```
i=1
while(i<11):
```

```
print(i)

i++
```

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

Sol.) We will call the function spam.bacon()