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

Ans: It has two possible values: **True and False**, which are special versions of 1 and 0 respectively and behave as such in arithmetic contexts.

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

Ans: The AND operator (&& or "and") → if(a > 30 and b == 45):

                                    print("True")

- The OR operator (|| or "or") → same as AND

- The NOT operator (not) → It is important to note that the NOT operator will only reverse the final result of the expression that immediately follows.

    E.g., not (True) = False

    If I initialize a = 30 and b = 30, Since a== b is true, not (a == b) will return false.

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: Truth table for AND

- *True and True = True*

- *True and False = False*

- *False and True = False*

- *False and False = False*

Truth table for OR

- *True or True = True*

- *True or False = True*

- *False or True = True*

- *False or False = False*

Truth table for NOT

- *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?

Ans: *Comparison operators* — operators that compare values and return TRUE or FALSE

> Less than (<), Greater than (>), Less than or equal to (<=), Greater than or equal to (>=), 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.

Ans: The "=" is an assignment operator is used to assign the value on the right to the variable on the left. For example: a = 10.

The '==' operator checks whether the two given operands are equal or not. If so, it returns true. Otherwise, it returns false.
For example: 5==5, This will return true

7. Identify the three blocks in this code:

spam = 0

if spam == 10: → 1st block

print('eggs')

if spam > 5: → 2nd block

print('bacon')

else: → 3rd block

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:

```
spam=int (input("Enter the number"))

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: Kernel restart in Jupyter notebook

To exit out of infinite loops on the command line, press CTRL + C.

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

Ans:

1. The main difference between break and continue is that break is used for immediate termination of loop. On the other hand, 'continue' terminate the current iteration and resumes the control to the next iteration of the loop
2. When a break statement is encountered then the control is exited from the loop construct immediately but in case of continue statement it leaves the rest of loop and goes back to the start of loop

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

Ans: All 3 are same

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:

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

    print(i)


j=1

while j<11:

    print(j)

    j=j+1
```

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

Ans: spam. bacon ()