1. What are the Boolean data type's two values? How do you go about writing them?

Ans:

The Boolean data type is a data type that has one of two possible values (usually denoted true and false) which is intended to represent the two truth values of logic and Boolean algebra. Boolean variables are used to indicate whether a condition is true or not.

True

False

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

Ans: The three basic boolean operators are: AND, OR, and NOT.

AND will narrow your search results to include only relevant results that contain your required keywords.

OR will expand your search results so all results must contain at least one, if not more, of your defined keywords or phrases.

NOT limits your search by excluding defined keywords and/or phrases from your results.

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).

Ans:

AND:

X	Y	Output
0	0	0
0	1	0
1	0	0
1	1	1

OR:

X	Y	Output
0	0	0
0	1	1
1	0	1
1	1	1

NOT:

X	Output
0	1
1	0

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)

Ans:

(5 > 4) and (3 == 5) means True and False which results to False

not (5 > 4) means not(True) which results to False

(5 > 4) or (3 == 5) means True or False which results to True

not ((5 > 4) or (3 == 5)) means not(True or False) = not(True) which results to False

(True and True) and (True == False) which results to False

(not False) or (not True) which results to True

5. What are the six different types of reference operators?

6. How do you tell the difference between the equal to and assignment operators?

Assignment Operator(=)	**Equal to Operator(==)**
Single equal to, is an assignment operator.	Double equal to , is a relational or comparison operator.
It is used for assigning the value to a variable.	It is used for comparing two values. It returns 1 if both the values are equal otherwise returns 0.
Constant term cannot be placed on left hand side. Example: 1=x; is invalid.	Constant term can be placed in the left hand side. Example: 1==1 is valid and returns 1.

7. Describe a condition and when you would use one.

Ans:

This is the ability to *test* a variable against a value and act in one way if the condition is met by the variable or another way if not. They are also commonly called by programmers *if statements*. To know if a condition is *True* of *False*, we need a new type of data: the booleans. They allow logical operations. A logic statement or operation can be evaluated to be *True* or *False*.

Example:

if (a condition evaluates to True):

    then do these things only for 'True'

else:

    otherwise do these things only for 'False'.

We use conditions we have lot of Test Cases.

8. Recognize the following three blocks in this code:

```
spam = 0
if spam == 10:
   print('eggs')
   if spam > 5:
      print('bacon')
   else:
      print('ham')
   print('spam')
print('spam')
```

Ans:

Output: spam

As spam = 0, so if spam == 10 returns a Boolean False. So entire if block will not execute. So it will execute the last print statement which is outside of the if block

9. Create a programme that prints. If 1 is stored in spam, prints Hello; if 2 is stored in spam, prints Howdy; and if 3 is stored in spam, prints Salutations! if there's something else in spam.

Ans:

```
if spam == 1:
   print("Hello")
elif spam == 2:
   print("Howdy")
elif spam == 3:
   print("Salutations!")
else:
   print("there's something else in spam.")
```

10.If your programme is stuck in an endless loop, what keys can you press?

Ans : ctrl – c

```
try:
   i = 0
   while i <=10:
      print(i)
except KeyboardInterrupt:
   print('Hello user you have pressed ctrl-c button.')
```

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

Ans:

Break: The break statement takes care of terminating the loop in which it is used. If the break statement is used inside nested loops, the current loop is terminated, and the flow will continue with the code followed that comes after the loop. If the break statement is inside a nested loop (loop inside another loop), the break statement will terminate the innermost loop.

Continue: The continue statement is used to skip the rest of the code inside a loop for the current iteration only. Loop does not terminate but continues on with the next iteration.

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

Ans:

range(10), range(0, 10), and range(0, 10, 1) all means the same

where 1st argument means Starting index, 2nd argument means Ending index, 3rd argument means Step Size.

13. Using a for loop, write a short programme that prints the numbers 1 to 10 Then, using a while loop, create an identical programme that prints the numbers 1 to 10.

Ans:

Using For Loop:

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

Using while Loop:

```
i=1
while i<=10:
        print(i)
        i+=1
```

14. If you had a bacon() function within a spam module, how would you call it after importing spam?

```
import spam
obj = spam()
obj.bacon()
```