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

Ans: Boolean Data Types:

i. True
ii. False

We use python keywords True and False to write Boolean values

True: It is logical '1'

False: It is logical '0'

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

Ans: Boolean Operators:

i. and
ii. or
iii. 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).

Ans:

i. 'and' operator Truth Table (performs "Var1 and Var2")

Var1	Var2	Output
True	True	**True**
True	False	**False**
False	True	**False**
False	False	**False**

ii. 'or' operator Truth Table (performs "Var1 or Var2")

Var1	Var2	Output
True	True	**True**
True	False	**True**
False	True	**True**
False	False	**False**

iii. ‘not’ operator Truth Table (performs “not of Var”)

Var	Output
True	**False**
False	**True**

4. What are the values of the following expressions?

Ans:

(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 different types of reference operators?

Ans:

i. Assignment operators : =, +=
ii. Arithmetic operators : + - / *
iii. Relational operators : ==, >,< ,>=
iv. Bitwise operators : & , | , ~ , ^ , >>, <<
v. Logical operators : and, or, not
vi. Special operators : is, in, not in, is not

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

Ans:

Equal to is relational operator represented by “==”

Assignment operator is represented by “=”

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

Ans:

To compare two objects “ equal to (==) is used”. Eg: is (2==3) answer is False.

To assign value to variable “= is used”. Eg: v = “hi” , here hi is assigned to variable v.

8. Recognize the following three blocks in this code:

```
spam = 0     # Assignment Block

if spam == 10:    #Conditional Statement Block (if)
    print('eggs')

if spam > 5:    #If- else Block (Conditional statement)
    print('bacon')
else:               #else block
   print('ham')
   print('spam')
   print('spam')
```

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.

Program:

```
spam = int(input())
if (spam==1):
   print(“Hello”)
elif(spam ==2):
   print(“Howdy”)
elif(spam ==3):
   print(“Salutations!”)
else:
   print(“Something else”)
```

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

Ans: Ctrl + c can be used to exit endless program.

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

Ans: Break : when break is encountered the control exits the loop and execution proceeds

Continue: when continue is encountered the control execution proceeds from start of the loop

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

Ans: Range function can take one, two or three arguments. range(start, stop, step)

When one argument is passed it initialises to stop i.e range(stop)

When two argument are passed it initialises to start and stop i.e range(start, stop)

When three argument are passed it initialises to start, stop, step i.e range(start, stop, step)

So, range(10) starts from 0 to 10 , start from 0 is by default ,step=1 by default

Range(0,10) starts from 0 and stops at 10, start is user defined , step =1 by default

Range (0,10,1) here step is 1 means it is incremented by 1.

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.

Program:

```
#using for loop
for i in range(1,11):
    print(i)
#using while loop
i=1
while (i<11):
    print(i)
    i-=1
```

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

Ans: spam.bacon()