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

TRUE and FALSE.

bool()

2. What are the 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 ).

# True is 1 and False is 0

Truth Table for AND  
A B output  
0 0 0  
0 1 0  
1 0 0  
1 1 1

Truth Table for OR  
A B output  
0 0 0  
0 1 1  
1 0 1  
1 1 1

Truth Table for NOT  
A output  
0 1  
1 0

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?

less than (<), greater than (>), less than or equal to (<=), greater than or equal to (>=), equal to (=), and not equal to (!= or <>)

6. How do you tell the difference between the equal to and assignment operators?Describe a condition and when you would use one.

'=' is the assignment operator, which assigns the value at the right hand side to the variable at the left hand side. Example x=4, here the value 4 is assigned to 'x'.

'==' is the relational operator which is used to check whether the value on both the sides are equal or not. Example x==4 will return true if x is equal to 4 else will return false

7. Identify the three blocks in this code:

spam = 0

if spam == 10:

print('eggs')

if spam > 5:

print('bacon')

else:

print('ham')

print('spam')

print('spam')

**Answer:**

spam = 10

if spam == 10:

print('eggs') # indent increased, block A

if spam > 5: # still block A

print('bacon') # still block A, indent increased, block B inside block A

else: # still block A, indent decreased, block B ended in line above

print('ham') # still block A, indent increased, block C inside block A

print('spam') # still block A, indent decreased, block C ended in line above

print('spam') # indent decreased, block A ended in line above

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.

Spam = 0

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?

CTRL + C

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

By the Keyword break: the control exits from the loop.

By the Keyword continue: the control remains within the loop.

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

## range (start, stop, step)

* start: [ optional ] start value of the sequence
* stop: next value after the end value of the sequence
* step: [ optional ] integer value, denoting the difference between any two numbers in the sequence.

range(10)will return 10 elements starting from 0 upto 9 (0,1,2,3,4,5,6,7,8,9)

range(0,10)will also return 10 elements starting from 0 upto 9 (0,1,2,3,4,5,6,7,8,9) but here we have given 0 as the starting element and 10 as number of continuous elements.

range(0,10,1) will also return 10 elements starting from 0 upto 9 (0,1,2,3,4,5,6,7,8,9) but here we have given 0 as the starting element and 10 as number of continuous elements and 1 as the the difference between any two numbers in the sequence.

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.

**Using for loop**

for num in range(1,11):

print(num)

**Using while loop**

num1=0

while(num1<=9):

num1+=1

print(num1)

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

spam.bacon()