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

True , False

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 ).

a = 10  
b = 20

|  |  |  |
| --- | --- | --- |
| and | or | not |
| a==10 and b==20 => True | a==10 or b==20 =>True | not(a==10) => False |
| a > 10 and b >20 => False | a > 10 or b >20 => False | not(b>20) => True |
| a==10 and b < 20 => False | a==10 or b < 20 => 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?

>  
<  
>=  
<=  
!=  
==

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

== Equal To Operator, used to check if both operands are equal  
More such operators are +=, -=, /=, \*=

= Assignment Operator, used to assign a value to a var

7. Identify the three blocks in this code:

spam = 0

# Block 1------------

if spam == 10:

print('eggs')

# Block 2-----------------------

if spam > 5:

print('bacon')

else:

print('ham')

# Block 3--------------------

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.

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?  
break – stops the loop  
continue – skips an iteration in a loop

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

Same output for all 3  
Range(start, stop, step) - Range returns a sequence of numbers.  
By default, start is 0 and step is 1  
So effectively, range(10) is equal to range(0,10) and range(0,10,1)

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.

for x in range(1,11):  
print(x)  
------------------------------------------  
i = 1  
while i < 11:  
print(i)  
i += 1

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

import spam as sp  
sp.bacon()