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

**Ans**:

1. True
2. False

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

**Ans:**

1. and
2. or
3. 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:**

**not operator**

| Input | Output |
| --- | --- |
| True | False |
| False | True |

**or operator**

| Input 1 | Input 2 | Output |
| --- | --- | --- |
| True | True | True |
| True | False | True |
| False | True | True |
| False | False | False |

**and operator**

| Input 1 | Input 2 | Output |
| --- | --- | --- |
| True | True | True |
| True | False | False |
| False | True | False |
| False | False | False |

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:**

1. Greater than: >
2. Less than: <
3. Equal to: ==
4. Greater than or equal to: >=
5. Less than or equal to: <=
6. 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:**

Equal to operator (==): Used for comparison of two values will return true or false. example 5 == 2 will return False and 4 == 4 will return True.

Assignment operator (=): Used for assigning values to variable like age = 52 will assign value 52 to variable age.

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')

**Ans:**

spam = 0

**Block 1**

if spam == 10:

print('eggs')

**Block 2**

if spam > 5:

print('bacon')

**Block 3**

else:

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:**

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**: CTRL + C

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

**Ans:**

**break:** Used to come out of the loop if certain condition is met

**continue**: Used to skip an iteration and go to the next iteration if certain criteria is met without breaking loop

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

**Ans:** There is not difference all three will return values from 0 to 9 with a step of 1 like (0,1,2,…,8,9)

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 loop:**

for i in range(1,11):

print(i)

**While loop:**

i = 1

while i <=10:

print(i)

i = i + 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()