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

**Answer:** there are two values in Boolean data type: True and False

Example: - Boolean\_data\_type = True, Boolean\_data\_type = False

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

**Answer:** the three different types of Boolean operators are 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).

**Answer:**

AND Truth Table

|  |  |  |
| --- | --- | --- |
| INPUT 1 | INPUT 2 | OUTPUT |
| True | True | True |
| True | False | False |
| False | True | False |
| False | False | False |

OR Truth Table

|  |  |  |
| --- | --- | --- |
| INPUT 1 | INPUT 2 | OUTPUT |
| True | True | True |
| True | False | True |
| False | True | True |
| False | False | False |

NOT Truth Table

|  |  |
| --- | --- |
| INPUT | OUTPUT |
| True | False |
| False | True |

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)

**Answer:**

(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?

**Answer:** the six comparison operators are

> - greater than, < - lesser than, == - equal to, >= - greater than and equal to, <= lesser than and equal to, = - 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.

**Answer:** the equal to operator is represented by ‘==’ and it is used for comparing two value or value and variable. the assignment operator is represented by ‘=’ and it is used for assigning a value to variable.

Example: ‘==’ operator

int variable = 5

print(variable == 5)

output = True

Example: ‘=’ operator

int variable = 5

print(variable)

Output = 5

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 = 0

if spam == 10:

print('eggs')

if spam > 5:

print('bacon')

else:

print('ham')

print('spam')

print('spam')

there are three block code: two block code after if and one block after else conditions.

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.

**Answer:**

spam = int(input())

if spam == 1:

print("Hello")

if spam == 2:

print("Howdy")

else:

print("Greetings")

9.If your programme is stuck in an endless loop, what keys you’ll press?

**Answer:** ctrl + c

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

**Answer:**

break: break keyword is used to terminate the loop and exit of the code block.

continue: continue keyword is used to skip current iteration and continue from the next iteration.

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

**Answer:**

When range(10) is used in for loop, loop will always start from 0 and end at 9 (n-1 if n= 10).

When range(0, 10) is used in for loop, loop will start at 0 since it is mentioned and end at 9 (n-1 if n= 10).

When range(0,10,1) is used in for loop, loop will start at 0 and end at 9 (n-1 if n= 10) with a increment of 1 inside the loop when mentioned.

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.

**Answer:**

For loop:

for i in range(1,11):

print(i)

For while loop:

i = 1

while(i <= 10):

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?

**Answer:**

Import spam

spam.bacon()