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

Ans No.1: There are two values of Boolean:

1. True
2. False

These both are written in sentence case.

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

Ans No.2:

Different types of Boolean operators are used to verify two or more conditions.

1. AND: It is represented by ‘and’. It returns True only if all the mentioned conditions are True.
2. OR: It is represented by ‘or’. It returns True only if anyone of the mentioned conditions is True.
3. NOT: It is represented by ‘not’. It negates the existing condition. E.g.,

a = 10<3

print(not(a))

result = True

**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 evaluates).**

Ans No.3:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| p | Q | ~p | ~q | p and q | p or q |
| T | T | F | F | T | T |
| T | F | F | T | F | T |
| F | T | T | F | F | T |
| F | F | T | T | F | F |

**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)**

Ans No.4:

* (5 > 4) and (3 == 5)

Result = True

* not (5 > 4)

Result = False

* (5 > 4) or (3 == 5)

Result = True

* not ((5 > 4) or (3 == 5))

Result = False

* (True and True) and (True == False)

Result = False

* (not False) or (not True)

Result = True

1. What are the six comparison operators?
2. == Equal to
3. != Not Equal to
4. > Greater than
5. < Less than
6. >= Greater than or equal to
7. <= Less than or 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 No.6:

An equal to operator is written as ‘==’. The equal to operator checks if the two value are equal. While assignment operator is written as ‘=’, and it is used to assign a value to a variable.

E.g.,

- Equal To Operator:

* if a==10:

print(a)

- Assignment Operator:

* a = 10

**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 No.7:

Block No.1

spam = 0

if spam == 10:

print('eggs')

if spam > 5:

Block No.2

print('bacon')

else:

print('ham')

print('spam')

Block No.3

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 No.8

try:

spam = int(input("Enter a number:"))

if spam == 1:

print("Hello")

elif spam == 2:

print("Howdy")

else:

print("Greetings")

except Exception as e:

print(f"Invalid input. Error: {e}"

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

Ans No.9:

Ctrl + C

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

Ans No.10:

Break: It breaks the loop from further execution when a certain condition is met.

Continue: It stops the loop from executing further statements for a certain condition.

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

Ans No.11 There is no difference between all three of them.

**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 No.12:

print("Program that prints the numbers 1 to 10 using loops\nWith For Loop:")

for i in range(1,10):

print (i)

print("With 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 No.13:

import spam

spam.bacon()