

**Course
&
Test Series**

 **CBSE**

 **ICSE**

 **NTSE**

 **Banking &
Insurance**

 **Central Govt.
Service**

 **State Govt.
Services**

 **LAW
Entrance**

 **MBA
Entrance**

 **Railways & Metro
Services**

...many more

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Booleans in Python

Booleans in Python

What is a Boolean?

A Boolean represents one of two possible values:

- True
- False

These are **special keywords** in Python (note the capital T and F).

They are used to represent **truth values** – whether a statement or condition is **true** or **false**.

Boolean Data Type

In Python, Booleans are of type **bool**.

x = True

y = False

```
print(type(x))
```

```
print(type(y))
```

Output:

```
<class 'bool'>
```

```
<class 'bool'>
```

Boolean Values from Comparison Operators

Operator	Description	Example	Output
==	Equal to	5 == 5	True
!=	Not equal to	5 != 3	True
>	Greater than	7 > 3	True
<	Less than	2 < 1	False
>=	Greater than or equal	4 >= 4	True
<=	Less than or equal	6 <= 3	False

Solved Example:

a = 10

b = 5

```
print(a > b) # True
```

```
print(a == b) # False
```

```
print(a != b) # True
```

```
print(a <= 15) # True
```

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 **CBSE**

Output:

True
False
True
True

Explanation:

Each comparison produces a **Boolean result** (True or False).

 **ICSE**

Booleans with Logical Operators

Booleans are also used with logical operators: and, or, and not

 **NTSE**

Operator	Description	Example	Output
and	True if both are True	True and True	True
or	True if at least one is True	True or False	True
not	Reverses the result	not True	False

 **Banking & Insurance**

Solved Example:

x = True
y = False

 **Central Govt. Service**

```
print(x and y)
print(x or y)
print(not x)
```

 **State Govt. Services**

Output:

False
True
False

 **LAW Entrance**

Explanation:

- x and y → both must be True → result is False
- x or y → one True is enough → result is True
- not x → reverses True to False

 **MBA Entrance**

Solved Example:

 **Railways & Metro Services**

Write a Python program that checks whether a person is eligible to vote. A person can vote if they are **18 or older and a citizen.**

Hint: Use and to combine both Boolean conditions.

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Booleans in Python

Solution:

```
age = int(input("Enter your age: "))  
citizen = input("Are you a citizen? (yes/no): ")  
print("Eligible to vote:", age >= 18 and citizen == "yes")
```

Sample Output:

```
Enter your age: 20  
Are you a citizen? (yes/no): yes  
Eligible to vote: True
```

Explanation:

- age >= 18 → checks if age is 18 or more
- citizen == "yes" → checks citizenship
- and → both must be True for eligibility.

Assignment

Question 1 – Check Exam Eligibility

Write a Python program that checks if a student is **eligible to sit for an exam**. A student is eligible if **attendance is at least 75% and assignment is submitted**.
Hint: Use the logical operator **and** to combine both conditions.

Question 2 – Check Discount Eligibility

Write a Python program to check whether a customer is eligible for a **special discount**.

A customer is eligible if the **purchase amount is at least ₹1000 or they have a membership card**.

Hint: Use the logical operator **or** – if **either** condition is True, the result should be True.



...many more

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