

DATA SCIENCE COURSE TUTORIAL # 19

3.11 If Else with Logical Operators

Logical operators are used in Python to combine multiple conditions inside an `if else` statement. They allow us to make more complex decisions.

The three main logical operators are:

- **and** → Returns True if both conditions are True.
- **or** → Returns True if at least one condition is True.
- **not** → Reverses the result (True becomes False, False becomes True).

Using **and** with if else

```
age = 20
citizen = True

if age >= 18 and citizen:
    print("You are eligible to vote.")
else:
    print("You are not eligible to vote.")
```

Output:

```
You are eligible to vote.
```

Using **or** with if else

```
day = "Sunday"

if day == "Saturday" or day == "Sunday":
    print("It is a weekend.")
else:
    print("It is a weekday.")
```

Output:

```
It is a weekend.
```

Using **not** with if else

```
is_raining = False

if not is_raining:
    print("You can go outside.")
else:
    print("Take an umbrella.")
```

Output:

```
You can go outside.
```