🕐 Hour 3 – Sets & Dictionaries (Python)

1️⃣ Sets in Python

🔹 What is a Set?

A **set** is an **unordered** collection of **unique** elements.

🔹 Features of Sets

- Written using **curly braces { }**
- No duplicate values
- No indexing

🔹 Example

```
numbers = {1, 2, 3, 4}
```

🔹 Set Operations

Add Elements

```
numbers.add(5)
```

Remove Elements

```
numbers.remove(3)
numbers.discard(2)
```

🔹 Set Functions

Function	Use
`add()`	Add element
`remove()`	Remove element
`union()`	Combine sets
`intersection()`	Common values
`difference()`	Difference

- Example

```
A = {1, 2, 3}
B = {3, 4, 5}
print(A.union(B))
```

2 Dictionaries in Python

- What is a Dictionary?

A **dictionary** stores data in **key : value** pairs.

- **Features**
  - Written using { }
  - Keys must be unique
  - Values can be any data type
- Example

```
student = {
    "name": "Rahul",
    "age": 18,
    "marks": 90
}
```

- Access Dictionary Values

```
print(student["name"])
```

- Modify Dictionary

```
student["age"] = 19
student["grade"] = "A"
```

- Dictionary Functions

Function	Use
`keys()`	Get keys
`values()`	Get values
`items()`	Key-value pairs
`pop()`	Remove item

🔹 Example Program

```
student = {"name": "Anita", "marks": 88}
print(student)
```

🔑 **Exam Important Points**

✓ List → mutable
✓ Tuple → immutable
✓ Set → unique elements
✓ Dictionary → key-value pairs