# Advanced Dictionary

## 1. Nested Dictionaries:

- A **dictionary inside another dictionary**.
- Useful to represent structured data (like student records, employee details)

**Example:**

```
students = {
   "student1": {"name": "Ali", "age": 20, "marks": 85},
   "student2": {"name": "Sara", "age": 22, "marks": 90}
}
```

## 2. Looping through Nested Dictionaries

```
for key, value in students.items():
   print(key, ":", value["name"], "-", value["marks"])
```

## 3. Dictionary Comprehension:

- A **short way** to create dictionaries.

**Syntax:**

```
{key: value for item in iterable if condition}
```

## 4. Using Functions with Dictionary Comprehension

```
def cube(n):
   return n**3

cubes = {x: cube(x) for x in range(1, 6)}
print(cubes)
```

## Key Points:

- Nested dictionaries represent **complex structured data**.
- Comprehension makes dictionaries **compact and readable**.
- Conditions can be applied inside comprehension.
- Useful in **data processing, filtering, and transformations**.