**📘 Python Dictionaries – Summary & Use Cases**

**✅ What is a Dictionary?**

* A **dictionary** is a Python data structure that stores data as **key–value pairs**.
* Think of it like a **real-world phonebook**:  
  ➤ "name" → "Alice"  
  ➤ "age" → 25  
  ➤ "is\_student" → True

**🧪 Example Dictionary**

my\_dict = {

"name": "Alice",

"age": 25,

"is\_student": True

}

**🔍 Accessing Values**

print(my\_dict["name"]) # Output: Alice

**🧱 Adding or Updating**

my\_dict["email"] = "alice@example.com" # Add

my\_dict["age"] = 26 # Update

**❌ Deleting a Key**

del my\_dict["is\_student"]

**✅ Checking if a Key Exists**

if "email" in my\_dict:

print("Email is present!")

**🔄 Looping Through Dictionary**

for key, value in my\_dict.items():

print(f"{key} → {value}")

**🧬 Nesting (List of Dictionaries)**

students = [

{"name": "Alice", "score": 85},

{"name": "Bob", "score": 92}

]

print(students[1]["score"]) # Output: 92

**🎯 Use Cases of Dictionaries**

* Storing user data (name, email, age, etc.)
* Counting items (like words or votes)
* Parsing JSON data from web APIs
* Creating configuration settings (config = {"debug": True})
* Grouping or categorizing data quickly (like tags or labels)

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