Week 1 Final Project: Expense Tracker 💰 Now that you've learned basic Python, loops, lists, tuples, conditionals, and dictionaries, let's apply all these concepts in a real-world project: Expense Tracker. ✅ Project Goal: Track daily expenses Store expenses in a dictionary. Allow users to add, view, delete, and analyze expenses. 🖥️ Full Code Implementation

In [4]:
```
# Expense Tracker Dictionary
expenses = {}

# Function to add an expense
def add_expense():
    date = input("Enter the date (YYYY-MM-DD): ")
    category = input("Enter expense category (Food, Transport, etc.): ")
    amount = float(input("Enter expense amount: "))

    if date not in expenses:
        expenses[date] = []

    expenses[date].append({"category": category, "amount": amount})
    print(f"Expense of ₹{amount} added under '{category}' on {date}.\n")

# Function to view all expenses
def view_expenses():
    if not expenses:
        print("No expenses recorded yet.\n")
        return

    print("\n📒 All Expenses 📒")
    for date, expense_list in expenses.items():
        print(f"\n🗓️ Date: {date}")
        for expense in expense_list:
            print(f"  ➤ Category: {expense['category']}, Amount: ₹{expense['amount

# Function to calculate total expenses
def total_expenses():
    total = sum(expense["amount"] for expense_list in expenses.values() for expense
    print(f"\n💰 Total Expenses: ₹{total}\n")

# Function to delete an expense
def delete_expense():
    date = input("Enter the date of the expense to delete (YYYY-MM-DD): ")

    if date in expenses:
        print("\n📌 Expenses on", date)
        for i, expense in enumerate(expenses[date]):
            print(f"{i+1}. Category: {expense['category']}, Amount: ₹{expense['amou

        choice = int(input("Enter the expense number to delete: ")) - 1

        if 0 <= choice < len(expenses[date]):
            deleted = expenses[date].pop(choice)
            print(f"Deleted expense: {deleted['category']} - ₹{deleted['amount']}\n
            if not expenses[date]:  # Remove the date if no expenses left
                del expenses[date]
        else:
            print("Invalid selection!\n")
    else:
```

```
        print("No expenses found for this date.\n")

# Main Menu
while True:
    print("\n💵 Expense Tracker 💵")
    print("1. Add Expense")
    print("2. View Expenses")
    print("3. Calculate Total Expenses")
    print("4. Delete an Expense")
    print("5. Exit")

    choice = input("Enter your choice (1-5): ")

    if choice == "1":
        add_expense()
    elif choice == "2":
        view_expenses()
    elif choice == "3":
        total_expenses()
    elif choice == "4":
        delete_expense()
    elif choice == "5":
        print("Exiting Expense Tracker. Goodbye!")
        break
    else:
        print("Invalid choice! Please enter a valid option.\n")
```

```
💵 Expense Tracker 💵
1. Add Expense
2. View Expenses
3. Calculate Total Expenses
4. Delete an Expense
5. Exit
Expense of ₹5000.0 added under 'food' on 2025-02-06.


💵 Expense Tracker 💵
1. Add Expense
2. View Expenses
3. Calculate Total Expenses
4. Delete an Expense
5. Exit
Expense of ₹500.0 added under 'transport' on 2025-02-07.


💵 Expense Tracker 💵
1. Add Expense
2. View Expenses
3. Calculate Total Expenses
4. Delete an Expense
5. Exit
```

```
💰 Total Expenses: ₹5500.0


💵 Expense Tracker 💵
1. Add Expense
2. View Expenses
3. Calculate Total Expenses
4. Delete an Expense
5. Exit
Exiting Expense Tracker. Goodbye!
```

In [ ]:

```
📌 Features of the Expense Tracker

1. Add an Expense:
Stores date, category, and amount.
Uses a dictionary with lists for multiple expenses on the same day.

2.View All Expenses:
Displays expenses grouped by date.

3.Calculate Total Expenses:
Uses loops & sum() to calculate total expenses.

4.Delete an Expense:
Lists expenses by date and allows specific deletion.
```

🔍 Step-by-Step Explanation

📌 Step 1: Storing Expenses in a Dictionary

python Copy Edit

```python
expenses = {}
```

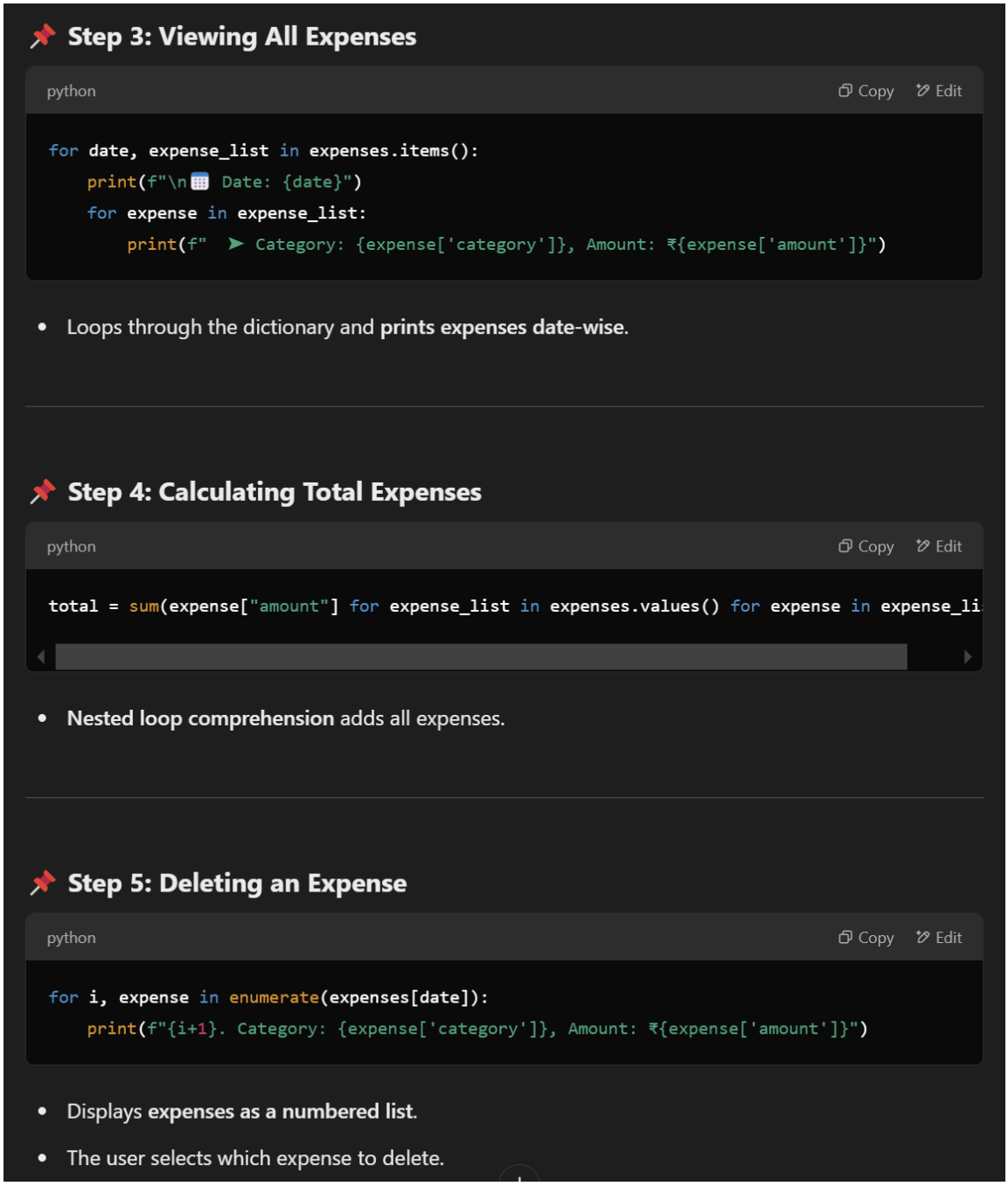
- Uses a **dictionary** to store **expenses by date.**
- Each date contains a **list of expense dictionaries.**

📌 Step 2: Adding an Expense

python Copy Edit

```python
if date not in expenses:
    expenses[date] = []
expenses[date].append({"category": category, "amount": amount})
```

- If the **date doesn't exist**, a **new list is created.**
- Stores **category and amount** as a dictionary inside a list.



✅ Example Run 💵 Expense Tracker 💵 1. Add Expense 2. View Expenses 3. Calculate Total Expenses 4. Delete an Expense 5. Exit Enter your choice (1-5): 1 Enter the date (YYYY-MM-DD): 2025-02-05 Enter expense category (Food, Transport, etc.): Food Enter expense amount: 250 Expense of ₹250 added under 'Food' on 2025-02-05. 💵 Expense Tracker 💵 1. Add Expense 2. View Expenses 3. Calculate Total Expenses 4. Delete an Expense 5. Exit Enter your choice (1-5): 1 Enter the date (YYYY-MM-DD): 2025-02-05 Enter expense category (Transport): Transport Enter expense amount: 100 Expense of ₹100 added under 'Transport' on 2025-02-05. 💵 Expense Tracker 💵 1. Add Expense 2. View Expenses 3. Calculate Total Expenses 4. Delete an Expense 5. Exit Enter your choice (1-5): 2 📜 All Expenses 📜 🗓️ Date: 2025-02-05 ➤ Category: Food, Amount: ₹250 ➤ Category: Transport, Amount: ₹100 💵 Expense Tracker 💵 1. Add Expense 2. View Expenses 3. Calculate Total Expenses 4. Delete an Expense 5. Exit Enter your choice (1-5): 3 💰 Total Expenses: ₹350 💵 Expense Tracker 💵 1. Add Expense 2. View Expenses 3. Calculate Total Expenses 4. Delete an Expense 5. Exit Enter your choice (1-5): 4 Enter the date of the expense to delete (YYYY-MM-DD): 2025-02-05 📌 Expenses on 2025-02-05 1. Category: Food, Amount: ₹250 2. Category: Transport, Amount: ₹100 Enter the expense number to delete: 2 Deleted expense: Transport - ₹100 📌 Summary of Week 1 Final Project ✔ Applied all Python basics learned this week. ✔ Built a useful real-world application. ✔ Practiced functions, loops, dictionaries, and conditionals.