PYTHON PROGRAMMING INTERNSHIP
PROJECT 4

Project Title: Virtual Coin Toss

Objective:
The aim of this project is to create a Python program that simulates flipping a coin. The project focuses on basic Python concepts, such as randomization, loops, and counters, providing a fun and engaging way to strengthen programming fundamentals.

Project Details

1. **Random Coin Flip Simulation:**

- Use Python's `random` module to simulate a coin toss that results in either "Heads" or "Tails."

2. **Multiple Tosses:**

- Allow users to perform multiple coin flips in a single session.

- Users can specify the number of flips they want to perform.

3. **Count Results:**

- Keep track of the total number of "Heads" and "Tails."

- Display the counts and percentages of each result at the end of the session.

4. **Interactive User Input:**

- Provide an easy-to-use interface where users can decide how many flips to simulate and whether to repeat the session.

Tips for Success

1. **Understand the Random Module:**

- Learn how to use the `random.choice()` function to select between two outcomes ("Heads" and "Tails").

2. **Plan Your Code:**

- Start by writing a function to simulate a single coin toss.

- Build on this function to handle multiple tosses and record results.

3. **Enhance User Interaction:**

- Use clear prompts and messages to guide the user through the program.

- Include an option to exit or restart the session easily.

4. **Test Your Program:**

- Simulate a variety of scenarios, such as flipping the coin once, multiple times, or not at all, to ensure the program works as expected.

Learning Outcomes

1. By completing this project, you will:
2. Understand randomization using the `random` module.
3. Learn to use loops and counters effectively.
4. Develop an understanding of user input handling and interactive programming.
5. This project serves as the foundation for more complex and exciting tasks ahead.

Bonus Challenge (Optional)

1. Add a graphical representation of the coin toss using libraries like `tkinter` (optional but encouraged for creativity).
2. Display historical results for multiple sessions.