**Python\_Manual**

**Month 1: Establishing the Foundation with Python**

**Week 1:** **Overview and Environment Configuration**

Overview of Python: Its Origins, Features, and Uses

Setting up Development Environments (IDEs, Text Editors) and Installing Python

Examining Community Resources and Documentation for Python

**Week 2: Fundamentals of Python**

Syntax: Comprehending Basic Syntax and Code Organization

Python Variables, Identifiers, and Keywords Data Types, Strings, Booleans, Numbers, and None Using Built-in Modules and Functions

**Week 3: Decision Making and Control Flow**

If, elif, else conditional statements

Looping Structures: while and for loops

Making Use of Decision-Making in Practical Situations

**Week 4 : Gatherings and Reiteration**

Overview of Data Structures: Lists, Dictionary, Sets, and Tuples

Iterating Through Collections: Generator Expressions, List Comprehensions

Resolving Issues through Iterative Methods

**Month 2 : Complex Ideas and Utilizations**

**Week 5: Modularity and Functions**

Function Definition and Calling

Comprehending the Scope: Both Local and Global Variables

How Coding is arranged into packages and modules.

**Week 6: Foundations of Object-Oriented Programming (OOP)**

Comprehending the Principles of OOP: Polymorphism, Inheritance, and Encapsulation

Establishing Classes and Objects

Putting OOP Ideas to Use in Practical Situations

**Week 7: Managing Files and Input-Output Processes**

Reading and Writing Files: Handling Text, CSV, and JSON Conditions for Errors and Exceptions

Putting File Operations into Practice for Real-World Applications

**Week 8: Project Preparation and Advanced Topics**

Examining Complex Python Functionalities: Context managers, generators, and decorators (Intro)

Overview of Frameworks and Libraries: Flask, Django, NumPy, Pandas (Intro)

Organizing for a Project

**Project\_Ideas**

1. **Interactive Storytelling Game**
2. **P@cketPrep Chat-Bot Using Python**
3. **Personalized Weather Dashboard**

**Repository\_Link: https://github.com/CalebVoila/Python\_Projects**