

Python Basic 2 (Level 2) (Data Structures)

Session 1: **Strings**

1. **Strings:**

- Creating strings.
- Accessing characters in a string.

2. **String Methods:**

- Using upper(), lower(), capitalize(), split(), join(), strip(), count(), startswith(), endswith(), find(), index().

3. **String Formatting:**

- Formatting strings using f-strings.

Session 2: **Data Structures Part 1**

1. **Lists:**

- Creating lists.
- Determining the length of a list.
- Accessing elements by index.
- Getting a range of items from a list.

Session 3: **Data Structures Part 2**

1. **List Methods:**

- Using append(), insert(), index(), count(), copy(), sort(), reverse(), remove(), pop(), clear().

2. **Tuples:**

- Creating tuples.
- Accessing elements in a tuple.
- Tuple methods: count() and index().

Session 4: Data Structures Part 3

1. Dictionaries:

- Creating a dictionary.
- Accessing elements in a dictionary.
- Modifying dictionary elements.
- Removing elements from a dictionary.

2. Dictionary Methods:

- Using keys(), values(), items(), update().

Session 5: Functions

1. Defining Functions:

- Writing functions in Python.

2. Parameters and Arguments:

- Using parameters and arguments in functions.

3. Return Statements:

- Using return statements to return values from functions.

Session 6: Final Project

1. Project Development:

- Each student chooses a problem to solve.
- Implementing the solution using Python code.

