Report on Python Training and Project Development

1. **Overview of the Training**

The Python training course was completed on the Edraak platform, focusing on foundational programming concepts and practical applications.

This course was designed to equip learners with the necessary skills to solve problems using Python, a versatile and widely-used programming language.

2. **Course Content Highlights**

The training covered the following core topics:

- Python Basics: Syntax, variables, data types, and operators.

- Control Structures: Conditional statements (if-else) and loops (for, while).

- Functions: Defining and invoking functions, parameter handling, and return values.

- Data Structures: Lists, tuples, dictionaries, and sets.

- File Handling: Reading from and writing to files.

- Error Handling: Understanding and implementing try-except blocks.

- Modules and Libraries: Introduction to standard Python libraries.

3. Practical Application: Task Management Project

As part of the training, I developed a task management project. This project allowed me to apply the concepts learned in the course to a real-world scenario.

Key Features of the Project:

- Task Creation: Users can add new tasks with details such as name, priority, and deadline.

- Task Listing: A display of all tasks, including sorting options based on priority or deadline.

- Task Updates: Editing and updating task details.

- Task Deletion: Removing completed or irrelevant tasks.

- File Integration: Saving and loading tasks from a file to ensure data persistence.

4. Tools and Technologies Used

- Programming Language: Python

- Development Environment: IDLE and VS Code

- Libraries Utilized: os , tkinter

5. Key Learnings and Benefits

The course and project provided me with:

- A strong foundation in Python programming.

- Hands-on experience in applying Python to build practical applications.

- Improved problem-solving skills and debugging techniques.

- Familiarity with file handling and data persistence.

6. Challenges and Solutions

- Challenge: Managing task data efficiently.

  Solution: Implemented a dictionary-based structure to store task details.

- Challenge: Ensuring user-friendly functionality.

  Solution: Iterated on user input validation and error handling mechanisms.

7.Project link on GitHub : https://github.com/moaz-siam/Field-Training-Project