**COSC 1104 – Assignment 2**

**Name- Harshit Sonik**

**Id - 100941462**

**Part 1: Identify the Problem**

**Problem 1: Automated File Organizer**

**Description:**Many people have a cluttered folder on their computer where all their downloaded files are stored. Over time, this makes it difficult to find important files. An automated file organizer can solve this problem by categorizing files (e.g., documents, images, videos) into folders based on their type.

**Why It’s Useful:**This solution saves time and improves productivity by organizing files neatly. It is especially helpful for students and professionals who frequently download files and need to maintain an organized workspace.

**Difficulty Level:**This is a moderate problem. The program uses Python’s os and shutil libraries to move files based on their extensions. The logic is straightforward, making it an excellent learning opportunity for file handling in Python.

**How It Works:**

1. **User Input:**

* The user provides the path to the folder they want to organize.

1. **Categorization:**

* Files are categorized based on their extensions (e.g., .pdf goes into the "Documents" folder).

1. **Folder Creation:**

* Folders for each category are created automatically if they don’t already exist.

1. **File Movement:**

* Files are moved to their corresponding folders.
* Files that don’t fit into any category are placed in an "Others" folder.

**Problem 2: Basic Expense Monitoring**

**Description:**

It can be difficult to keep track of daily spending when managing personal money.Individuals frequently lose sight of their spending patterns, which might result in overspending or failed financial objectives. By enabling users to add expenses, view details, and compute the total, a basic expense tracker tool can solve this problem.Anyone who wants to manage their money better, especially students or those on a tight budget, would benefit from the training. It enhances spending awareness and promotes financial discipline by offering a consolidated method for tracking and viewing expenses.

**Why It's Beneficial and Useful:**With the aid of this service, customers can better manage their budgets, remain on top of their money, and cut out wasteful spending. Regularly keeping track of spending will help you manage your money better and make wiser financial decisions.

**Ease of Coding:** The problem is moderately easy to solve, requiring the use of Python’s data structures like lists to store expense details. The program would involve adding, viewing, and calculating expenses, all of which can be implemented with straightforward logic.

**Python Features to Use:**

Lists to store expense details.

Loops for displaying and managing the list of expenses.

Functions to break the program into manageable parts (e.g., add expense, view total expenses).

Arithmetic operations to calculate total expenses.