Challenge: Organizing a Directory Structure

Scenario:

You are tasked with organizing a directory containing mixed files. The directory has files of various types (e.g., `.txt`, `.jpg`, `.py`, `.pdf`), and you need to organize them into subdirectories based on their file extensions. If a subdirectory for a file type doesn't exist, you should create it.

Challenge Requirements

1. Write a Python script that:

- Loops through all files in a given directory.
- Groups files into subdirectories based on their extensions (e.g., `.txt` files go into a folder named txt).
- Uses `os` library functions like `os.path.splitext`, `os.path.exists`, `os.makedirs`, and `os.rename`.

2.The program should:

- Handle both absolute and relative paths.
- Skip directories (only move files).
- Print a summary of how many files were moved for each file type.

Example Directory Before Running Script:

C:\MixedFiles - report.txt - photo.jpg - script.py - presentation.pdf - notes.txt

Example Directory After Running Script:

C:\MixedFiles \txt - report.txt - notes.txt \jpg - photo.jpg \py - script.py \pdf - presentation.pdf

Hints

- Use `os.listdir()` to get the contents of the directory.
- Use `os.path.splitext(filename)` to extract the file extension.
- Use `os.path.exists()` to check if a subdirectory already exists.
- Use `os.makedirs()` to create new subdirectories.
- Use `os.rename()` to move files into their respective subdirectories.

Bonus Challenge

1. Allow the script to accept a directory as an input argument from the user.
2. Skip files without extensions.
3. Handle errors gracefully (e.g., permissions issues or invalid paths).

Deliverables

1. Write the complete script.
2. Test it with a directory containing files of mixed types.
3. Share the output summary of the script's execution! 🚀