Capstone Overview

In Simple Terms

- Set Up Categories: It defines what types of files belong to which categories (like images, documents, etc.).
- Create Folders: It makes folders on the desktop for each category if they don't already exist.
- Sort Files: It looks at each file on the desktop and moves it into the appropriate folder based on its type. If a file doesn't fit into any category, it goes into an "Others" folder.
- Run the Cleanup: When you run the script, it cleans up your desktop by organizing all the files into these folders and lets you know when it's done.

Breakdown of Code

Imports:

- import os: This brings in the os module, which helps us interact with the operating system (like working with files and folders).
- import shutil: This brings in the shutil module, which helps us move files around.

Function Definition:

- def clean_desktop(desktop_path):: This defines a function named clean_desktop that takes one input, desktop_path, which is the location of your desktop on your computer.

Defining Categories:

- categories = {...}: Here, we create a dictionary (like a list of categories) that matches different types of files with their extensions. For example, images like .jpg and .png, documents like .pdf and .docx, and so on.

Creating Folders:

- for category in categories.keys(): ...: This loop goes through each category (like Images, Documents, etc.) and checks if a folder for that category exists on the desktop.
- if not os.path.exists(folder_path): os.mkdir(folder_path): If the folder does not exist, it creates a new folder with the category name.

Moving Files:

- for filename in os.listdir(desktop_path): ...: This loop goes through every file and folder currently on the desktop.
- file_path = os.path.join(desktop_path, filename): This gets the full path of the file.
- if os.path.isfile(file_path): ...: This checks if the item is a file (not a folder).
- file_extension = os.path.splitext(filename)[1].lower(): This gets the file extension (like .jpg or .pdf) and makes it lowercase to ensure consistency.
- moved = False: This is a flag to check if the file has been moved to a category folder.
- for category, extensions in categories.items(): ...: This loop goes through each category and its file extensions.
- if file_extension in extensions: shutil.move(file_path, destination_folder): If the file's extension matches the category's extensions, it moves the file to the corresponding folder and sets moved to True.
- if not moved: shutil.move(file_path, destination_folder): If the file doesn't match any category, it moves the file to the "Others" folder.

Main Function:

- def main():: This defines the main function that will run the cleanup process.
- desktop_path = os.path.join(os.path.expanduser("~"), "Desktop"): This gets the path to the user's desktop.
- clean_desktop(desktop_path): This calls the clean_desktop function with the desktop path.

- print("Desktop cleanup completed."): This prints a message indicating that the cleanup is done.

Executing the Main Function:

- if __name__ == "__main__": main(): This checks if the script is being run directly (not imported as a module) and runs the main function.