**Documentation for FolderSync program:**

The FolderSync program is a console application that allows the user to synchronize a source directory with a destination directory. The source directory can also be monitorized for changes and automatically copy any changes to the destination directory. It can be run in the background and logs all the activities to a log file.

**Getting Started:**

To run the program, navigate to the directory where the program is located, and look for FolderSync.exe inside SecondTry\bin\Debug\net7.0. The program will prompt the user to enter the source and destination directories path, the path to the log directory and the interval at which the program should check for changes in the source directory and syncronize the directories.

**Program Features:**

Several features are present for the FolderSync program:

**Auto-Sync:**

The program automatically syncronizes the source directory with the destination directory at a user chosen interval.

**File System Watcher:**

FileSystemWatcher is an object that monitors any changes that occurs inside the source directory. The program logs any created or deleted files in the source directory by creating a logs.txt file with the date and hour when it was created and then placed inside the log directory.

**Logging:**

The application logs all the information displayed inside the Console App as well as the user input. The program creates a logs.txt file with the date and hour when it was created and then placed inside the log directory specified by the user.

**User Input:**

The program accepts user input in the form of commands. The available commands are:

**!sync** - Synchronizes the source and destination directories immediately.

**!logs** - Stops logging activity to the log file. The user must manually resume logging to start logging again.

**!resume\_logs** - Resumes logging activity to the log file.

**!exit** - Exits the program and stops all activity.

**How it works:**

The FolderSync program uses the ‘CopyDirectory’ method to scyncronize the source directory with the destination directory. You can read more about this method [here](https://learn.microsoft.com/en-us/dotnet/standard/io/how-to-copy-directories). The method compares the files and directories present in the source and destination directories and copies or delete any necessary files/documents to maintain the same content in both files. The program uses a timer to perioadically trigger the ‘CopyDirectory’ method at a user specified interval as well as a FileSystemWatcher object ot monitor the source directory for any changes and logs all the relevant information in a log.txt file. The program accept any user input in form of commands as well as log them.

**Conclusion:**

The FolderSync program is a syncronziation script that can run in the background to maintain the same content between two directories as well as log all the changes that occurs during the time the program runs.