**Newline Cinema Booking System**

**Project Overview:**

This project is a Python-based client-server application designed for NewLine Cinema. It enables the management of movies and ticket sales using a graphical user interface (GUI) built with Tkinter, a backend SQLite database, and socket-based communication.

**Directory Structure:**

client.py – Tkinter based GUI client

server.py – Socket server that manages the SQLite database

cinema.db – SQLite database file (created and managed through the server)

receipts/ - Folder that stores all cinema transaction receipts as .txt files

README.docx – Project overview with instructions

**Project Features:**

Server:

* Creates and manages the cinema database using two tables:
  + Movies
  + Sales
* Utilises sockets to handle client requests.
* Accept data requests in JSON format.
* It is comprised of the following methods:
  + Create database tables
  + Starts server and listens for incoming connections
  + Retrieves movies from the database
  + Adds movies to the database
  + Updates movies in the database
  + Deletes a movie from the database
  + Books ticket purchases and updates both movie and sales databases.
  + If the database is empty upon creation, then it will populate it with seven movies.

Client:

* Comprised of a GUI built using Tkinter
* Supports the following features:
  + Dropdown menu to select movies
  + Purchase tickets with a generated receipt
  + Add a new movie to the cinema database.
  + Update or delete selected movies.

Technologies:

* Python 3.11
* Tkinter – GUI framework
* SQLite – database
* Sockets – Client-server communication
* JSON – Data format

**How to run the application:**

* Start the server in a command terminal (make sure you are in the project directory) by running this command: python server.py (an alternative command is: py -m server)
* Start the client in a new terminal window using this command: python client.py (alternatively: py -m client)
* The GUI window will open, and operations can be done using input fields and buttons.

**NB:**

* The client does not access the database directly but rather through the server.
* Ensure that the server.py file is running in a terminal window before trying to launch the client.