**Operating Systems – Project — Cinema**

**Instructions:**

1. The project can be developed in singles or in pairs or in thirds (the team of 3 must add functionality) in any programming language, you choose.
2. **You can develop a desktop application or a web application.**
3. The project is to be presented during the lecture hours on **14/6/2023**. The presentation times will be published in Moodle (later in the course). All the partners must be present during the meeting. **Both partners will be graded separately for their part in their project.**
4. The project must be submitted till **13/06//2023** into Moodle. Only one partner should submit the project but the names of both partners must be included. The title of the file is the names of the partners.
5. Copying ANY part is strongly prohibited and will be graded by 0, all the students will stand to disciplinary committee in this case.

You are to develop a website/application/program for managing the Movies booking at the Cinema (local host – if it’s a website) or a desktop application.

**The following is a necessary list of requirements to be implemented in the project. You are responsible of taking care of other possible constraints.** All the constraints, which does not meet requirements, must give a relative error message.

Please pay attention that a **seat** is a **critical section** so it must satisfy three requirements:

1. Mutex – (mutex/semaphores library)
2. Deadlock-free
3. Starvation-free

**Admin** is responsible for:

* adding/removing movies
* managing the prices
* **managing the number of seats in the hall**

**Users** can:

* choose a movie according to its date and time
* **book an unoccupied seat**
* change a seat (if it’s unoccupied) till the booking.

Show a report: Movie, date and time, price, seat.

**Movie gallery:**

* has a list of movies (at least 5 movies) with their posters, demonstration date and time, price and hall they are shown

All data must be managed in the Database/file/stored locally according to the user permission.

**Good luck!!!**