Difficulties.

- at the beginning of the project, we faced that is not like java it requires some work to understand them so, all of us take some day's to learn basics of C and pthread library in C.

- other problem is in the header file we faced that header file is not correctly included; a problem of redefine is showing.

- We did priority Queue as park but did not work the cars were moving at the insertion, so we changed to normal Array and the insertion is random.

Requirements realized.

We design Array for the parking

Queue design for arrival cars

Multithreads, semaphore, mutex and condition variables all together mix to serve the shard data (park array and arrival).

Requirements failed.

include library in more than one file create a problem, after searching the internet we found the solution by define variables at some files as we did in the project.

Build Commands

Use "make all" or "make cp" to compile all the .c and link all .h and .o for the executable cp.exe

Then run ./cp

Or you can compile and link every file individually by "make {file name}"

Finally you can use "make clean" to remove all .o files

Comments

The simulation works fine but too fast and the parking is always full, and the queue is full most the time, the cars park for long time so many cars will be refused.