Pseudo Code

Class Hospital Simulation – The class that will generate all the needed objects and will return all the needed values to the UI

HospitalSimulation(int arrivalRate, int totalDoctors, int totalNurses)

Will generate a HospitalSimulation object. It will instantiate the doctors vector and nurses vector

Vector <String> readPatients()

Will read each line of names.txt into a vector and return it, if there is a problem it will cout a message and an empty vector

Patient \* patientArrival(std::vector<std::string>& patients, int index)

Will create a new patient based on the name indicated by the index and then add the patient to the waiting room, will return the newly created patient object

void HospitalSimulation::updateWaitingRoom(std::vector<std::string>& patients, int clock)

will create a random number and use it to determine how many patients arrived in that instant and will add them to the heap

void updateDoctors(int clock)

will iterate through all doctors, if the doctor is ready for a new patient then give him the most critical patient and calculate the visit, set the doctors timer to the correct number, if the doctor isn’t ready decrease his counter by 1

void updateNurses(int clock)

will do the same as update doctors but nurses

void updateRegistrar(std::string patientName, Visit\* visit)

will set the correct in the registrar to visit