Use Case

|  |  |  |
| --- | --- | --- |
| Steps | User’s Action | System’s Response |
| 1. | Input how many patients per hour | Calculates rate of patients per minute then makes the average probability of patients to arrive in that minute and determines whether a patient comes into the emergency room based on that rate |
| 2. | Input how many doctors and nurses | Puts the amount specified into the queue of doctors and nurses |
| 3. |  | .txt file read in and names put into a vector where a vector of patients with those names is created and stored |
| 4. |  | If the patient rate says so a patient is put into the waiting room from the vector of patients |
| 5. |  | If there is an available nurse and the priority is less than 11 then the nurse and patient is put into a map to show the nurse is unavailable. The treatment is then set randomly between 1-10 minutes. If there are doctors available, then they go in map with patient. The treatment time is set randomly between 1-20 minutes. If there are no doctors but still nurses, then all patients with priority over 10 is put into a queue so the nurse can treat. After all nurses and doctors are taken the patients taken out of list that nurses couldn’t treat are put back in. |
| 6. |  | The map is then searched to see if their treatment is over. If not, they are left alone if it is then their records are recorded into a map of patient’s name and a patient object. If it is over then the doctor or nurse is put back into their respective queues and the patient is released. |
| 7. |  | After a week the system calculates the average visit time and asks user if they would like to view a patient’s records |
| 8. | Input patient’s name or exit | Output how many visits and the severity each visit |