Activity 2 – Agent Based Modeling (5%)
Deadline is on Sunday, October 17, 2021, 11:59 pm.

Exercise 1: Make a copy of the BasicAgentModel folder. Rename as "**PriorityAgentModel**". Change the scheduling rules so that A-type patients get priority. Zip the modified folder and submit to e-dimension.

The parameters for the "PriorityAgentModel" are the following:

```
// The probability of a patient arrival needs to be less than the probability of a departure, else an infinite queue will build.
// You also need to allow travel time for patients to move from their seat in the waiting room to get close to the doctor.
// So don't set probDeparture too close to probArrival.
var probArrival = 0.3;
var probDeparture = 0.4;

console.log(probDeparture)

// We can have different types of patients (A and B) according to a probability, probTypeA.
// The lesson of this simulation is that as long as probTypeA is small, A patients can have preferential treatment
// without increasing the waiting time of B type patients by very much
var probTypeA = 0.5;
```

Exercise 2: Make a copy of the BasicAgentModel folder. Rename the folder as "**NonCollidingAgentModel**". The basic agent model has no limit on the number of patients in the waiting room (they can stack up wherever they sit). The goal of this exercise is to impose a non-colliding rule, i.e. each cell of the waiting room can hold only one patient. If a patient arrives and all cells are occupied, we mark that patient as "DISCHARGED" and send it to the exit. Add SVG element of Seats (*"images/Chair-icon.png")*. Zip the modified folder and submit to e-dimension **(Type A and Type B patients must have the same priority as in the BasicAgentModel)**.

The parameters for the "NonCollidingAgentModel" are the following:

```
// We can section our screen into different areas. In this model, the waiting area and the staging area are separate.
var areas =[
  {"label":"Waiting Area","startRow":4,"numRows":3,"startCol":19,"numCols":3,"color":"pink"},
  {"label":"Staging Area","startRow":doctorRow-1,"numRows":1,"startCol":doctorCol-2,"numCols":5,"color":"red"}
]

// So don't set probDeparture too close to probArrival.
var probArrival = 0.25;
var probDeparture = 0.28;
```

Deliverables: Zip files: (i) PriorityAgentModel ; (ii) NonCollidingAgentModel.

*Hints and suggestions provided in the final slides of lecture 5.