ENGSCI 355 Assignment 2, S2 2023

Submit via Canvas by 11:59p.m. Friday 6th October

Using the conceptual model for the stadium system given, implement the conceptual model in Jaamsim. Note that there are a few minor differences between this conceptual model and the problem description given in Assignment 1, mainly to make it easier to implement in Jaamsim, and so that it will run more quickly. In particular, only 10,000 people need to enter the stadium, and when a person reaches their section they perform the 'Take Seat' activity (which takes 30 seconds) before they are seated.

You will need to create distributions, entities (active and passive) with their attributes, arrive and leave events, wait and process activities, and triggers within Jaamsim. You will also need to create a custom control unit that contains the model logic to be referenced by the triggers. The file that contains this control unit, and the class within the file should be named yourupi_ControlUnit.java. For example tada955_ControlUnit.java.

You will also need to export your sim project in Eclipse as an executable .jar file.

Output Requirements

Please read this section carefully and make sure that your model meets these requirements.

You should configure you model to run 10 replications, and don't print confidence intervals. At the end of each replication the time that the last person is seated should be recorded, you can do this by entering an expression that calculates this time in the RunOutputList of the Simulation object (see Jaamsim Lab 1 for an example). Make sure that this output is expressed in units of hours, but does not have the [h] suffix attached to the numbers, you can do this by dividing the expression by 1[h].

If you have configured this correctly the output file will be called your-simulation.dat and will look similar to the one given below (note that the numbers in the third column are not indicative of the expected output values).

```
1 Scenario  Replication  [Leave].ReleaseTime/1[h]
2 1 1 0.4236238747222222
3 1 2 0.4247051525
4 1 3 0.4238485388888889
5 1 4 0.42528552111111106
6 1 5 0.4271102705555555
7 1 6 0.4215227277777778
8 1 7 0.4326191525
9 1 8 0.4231818452777778
10 1 9 0.41968729722222226
11 1 10  0.42867644055555554
12 1  0.4250260821111111
```

You can confirm that your simulation is working and configured correctly by running the command 'java -jar your-exported-jar.jar your-simulation.cfg -h', and making sure that a .dat file of the correct format is produced.

Submission

Assignments must be submitted on Canvas before the due date (11:59 P.M. 6/10/2023). Please submit your .cfg file, your custom control unit .java class, and your compiled .jar file separately to the respective assignment uploads. Please remember, the file java that contains the control unit, and the class within the file should be named yourupi_ControlUnit.java. For example tada955_ControlUnit.java.