BBAE16502 Exercise (E1)

Due date: March 25, 2024 11:45

In this exercise, you will create a simulation model using NetLogo to arrange customers queuing for different games and activities in a theme park. The objective of the simulation is to minimize the average waiting time for all customers. There is an official mobile app developed by the theme park company, and it is assumed that all customers will follow the suggestions provided by the app when choosing a queue.

Assumptions:

- The number of customers arriving per minute follows a normal distribution with **mean = 20** and **standard deviation = 1.5**.
- In the theme park, customers can only have two statuses: playing a game or queuing.

- There are **6** games in the theme park, each with its own maximum capacity and duration for each batch. The details are provided below:

Game Name	Maximum Capacity	Gaming Time per Batch
Roller Coaster	20	10 minutes
Ferris Wheel	15	8 minutes
Bumper Cars	10	6 minutes
Water Slide	25	12 minutes
Haunted House	30	15 minutes
Carousel	12	10 minutes

Your task is to propose a solution to reduce the average customer waiting time in the theme park simulation, you should use your model and data to support your solution. Please submit your NetLogo file and other related files (if any) to Moodle by **11:45**.