

Bus Simulation Readme: Poojan Patel & Jake Buchanan

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### **Running the Program:**

Before running the simulation, ensure that every .java file located in the zip file has been compiled. Once the user runs Agenda, they are asked to enter information required for the simulation. The variables the user must enter are the number of buses (regular and express) and the inter-arrival rate. The program will run and display information about the PMPG, riders, and their wait times.

### **Project Organization:**

The project is organized with a bus and rider class, and riderEvent and busEvent classes. These classes add events to the agenda class which consists of a priority queue to hold the scheduled events. The simulation runs in a while loop for as long as the coded time permits.

Data structures used in creating this simulation event were array lists and queues. The riders for each bus were stored in to array lists. An array list implementation of a queue along with priority queues were used for the agenda.

### **Known Bugs:**

In terms of bugs for our program, the only issue would arise if express buses are expected to help the company out. In our tests the added express buses had negative impact on the efficiency of the route. It makes sense that having a few express buses would lessen the load on other buses, but this was not seen through the testing of our code.