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This project is meant to simulate different waiting policies that are used in stores now a days. The simulations include: a **Single Line Multiple Servers (SLMS)**, which has one line and one or more servers, like a bank; a **Multiple Lines Multiple Servers(MLMS)**, which has one line per server and theres no line transferring so its like the toll gates in highways; a **Multiple Line Multiple Servers Balanced Line Lengths(MLMSBLL)**, which allows changing lines to keep the length of all lines equal if possible; and a **Multiple Line Multiple Servers Balanced Waiting Time(MLMSBWT)**, which doesn't allow changing lines but the customers arriving will be added to the line with the least amount of total service time, service time being the time it will take for the clerk to complete the service required.

Getting Started

Prerequisites

Install Java Run-time Environment (JRE)

Install Eclipse IDE for Java Developers (Optional)

Running the tests

To run the main classes through the Ubuntu terminal you must first change directory into the directory of the project and write:

javac -d bin -sourcepath -Xlint src src/main_classes/DataReaderMain.java

This command will compile the class. Then, you run the class with:

java -classpath bin main_classes.DataReaderMain

and it will run the class and return the results in a output file corresponding to the input file.

All the policies are tested with the DataReaderMain class, and all the outputs of these are in the directory outputFiles. Each file that is processed appears in the dataFiles.txt file, including some files that may not actually exist. In the case that a file does not exist or it does not have the required format, then an output file corresponding to such is created stating if it is a FileNotFoundException or a invalid input format.

Whenever there is a file that can be tested the simulation will create a file corresponding to such input file with statistics such as the number of customers attended, the average waiting time per customer, the total time it took to complete all the services and the number of customers that arrive after a customer but departed before such customer.

Built With:
Eclipse Oxygen – Java IDE for Developers with JRE to write the code scripts.
ObjectAid – Eclipse plug-in to create UML file

Authors
Prof. P. Rivera – Some of the Useful Classes were based on this author's - pirvos
Angel G. Carrillo Laguna – Final code – AngelGCL

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• Inspiration: Feeling proud of my work and coffee.