s1421803
Proposal Document for CSLP-16-17

1. I plan to handle command line arguments by passing them straight to Java, and have bash only be used as an interface that allows automated execution of my simulator.
2. The input will then be parsed and validated in Java, by going through the input word by word, and extrapolating the relevant information from the input, and storing it in global variables.
   The parsed input will then be validated in Java, checking for relevant information such as incorrect data types(e.g. noAreas = 2.5) or other inconsistencies(e.g. noAreas < matrices supplied).
   Only once the input has been parsed and verified can the simulation start.
3. A ‘simulation method’ will run, which call methods on each ‘area object’, which will individually determine the bins that need serviced.
4. The method in the area object will then use a pathfinding algorithm(will start using floyd-warshall, but may change and/or extend to using other algorithms) to determine the best path for the lorry to take. The best path will be decided, and the route will have been calculated and checked for things like possible returns to depot, or the possibility of running out of time
5. The method will return information to the ‘simulation method’, so that the log can be updated.
6. Before the ‘simulation method’ is called, the system will check for experiment flags. Results will be output after an event has happened.
7. Will test input by providing: certain attributes incorrect data types; non-square area matrices; noAreas does not match number of matrices; type-errors etc