COS 221 Fundamental Data Structures Homework #4

Dimitar Kumanov ID# 100101031 e-mail: [DAK140@aubg.edu](mailto:DAK140@aubg.edu)

User Guide For Homework #4

There are two options for choosing a parking lot:

1. The user can choose from 5 preset parking lots, numbered from 1 to 5. (actually the first parking lot configuration is the same as the first configuration in the manual, the 2nd is the same as the 11th, the 3rd is the same as the 21st, the 4th is the same as the 31st, and the 5th is the same the 40th, which is the hardest).
2. The user can set his custom parking lot.
   1. Firstly, you have to set the column in which is the left end of the red car (that is car ‘X’ in the parking grid). You can choose from 1 to 4 for this column. You can’t choose 5 because this immediately puts the car in the winning state and the solution is obvious.
   2. Next you can choose to put as many other vehicles in the parking lot as you want. The process is the following:
      1. Enter the name of the vehicle (anything besides ‘0’ and the name of the existing vehicles). Enter ‘0’ to exit and view the solution to the scenario.
      2. You enter the size of the vehicle, either 2 or 3.
      3. You enter ‘h’ or ‘v’ depending on whether the vehicle would be in a horizontal position or in a vertical one.
      4. Finally, you have to specify the row and column for the most upper left end of the vehicle. The numbering for the rows and columns is the following:

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | 1 | 2 | 3 | 4 | 5 | 6 |
| 1 |  |  |  |  |  |  |
| 2 |  |  |  |  |  |  |
| 3 |  |  |  |  |  |  |
| 4 |  |  |  |  |  |  |
| 5 |  |  |  |  |  |  |
| 6 |  |  |  |  |  |  |

* + 1. If the vehicle can be put in the parking lot you would be notified and see the parking with the new vehicle situated in its place. If the vehicle can’t be put in the parking you would also be notified. In any case you loop back to i).

When viewing the solution you can also choose to view the parking after every move was made.