Project 3

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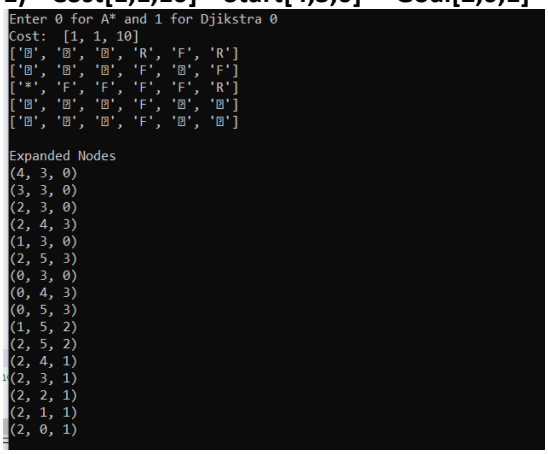
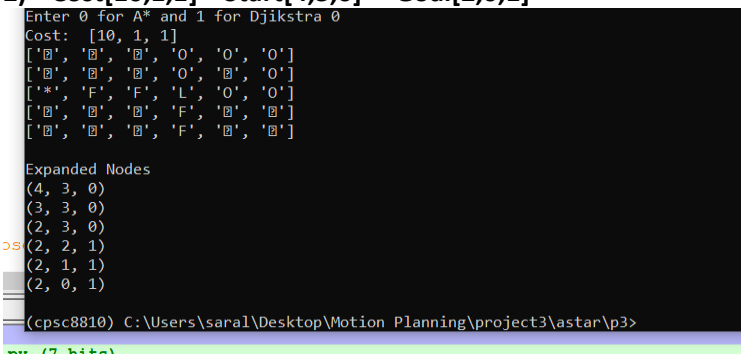
We implemented Djikstra's as a separate function. While running the program please enter 0 for A* or 1 for Djikstra's.

1. **A***

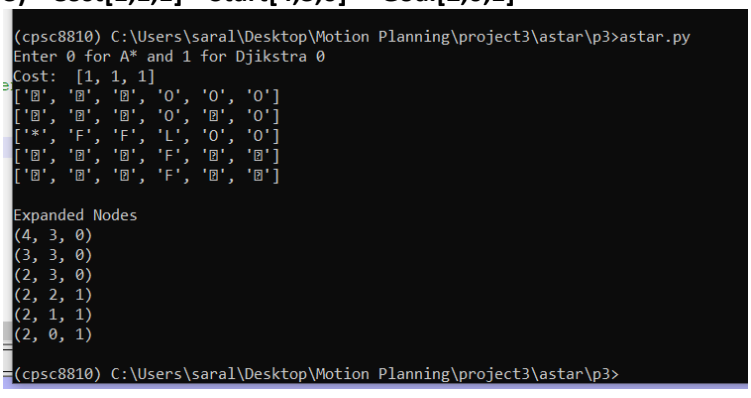
1) Cost[1,1,10] Start[4,3,0] Goal[2,0,1]



2) Cost[10,1,1] Start[4,3,0] Goal[2,0,1]



3) Cost[1,1,1] Start[4,3,0] Goal[2,0,1]



2. **Djikstra's**

1) Cost[1,1,10] Start[4,3,0] Goal[2,0,1]

```
(cpsc8810) C:\Users\saral\Desktop\Motion Planning\project3\astar\p3>astar.py
Enter 0 for A* and 1 for Djikstra 1
Cost:  [1, 1, 10]
['□', '□', '□', 'R', 'F', 'R']
['□', '□', '□', 'F', '□', 'F']
['*', 'F', 'F', 'F', 'F', 'R']
['□', '□', '□', 'F', '□', '□']
['□', '□', '□', 'F', '□', '□']

Expanded Nodes
(2, 0, 1)
(2, 1, 2)
(2, 1, 1)
(2, 2, 2)
(2, 2, 1)
(2, 3, 2)
(2, 3, 1)
(1, 3, 3)
(1, 3, 2)
(2, 4, 2)
(2, 4, 1)
(0, 3, 3)
```

2) Cost[10,1,1] Start[4,3,0] Goal[2,0,1]

```
(cpsc8810) C:\Users\saral\Desktop\Motion Planning\project3\astar\p3>astar.py
Enter 0 for A* and 1 for Djikstra 1
Cost:  [10, 1, 1]
['□', '□', '□', 'O', 'O', 'O']
['□', '□', '□', 'O', '□', 'O']
['*', 'F', 'F', 'L', 'O', 'O']
['□', '□', '□', 'F', '□', '□']
['□', '□', '□', 'F', '□', '□']

Expanded Nodes
(2, 0, 1)
(2, 1, 1)
(2, 1, 0)
(2, 2, 1)
(2, 2, 0)
(2, 3, 1)
(2, 3, 0)
(2, 4, 1)
(2, 4, 0)
```

3) Cost[1,1,1] Start[4,3,0] Goal[2,0,1]

```
(cpsc8810) C:\Users\saral\Desktop\Motion Planning\project3\astar\p3>astar.py
Enter 0 for A* and 1 for Djikstra 1
Cost:  [1, 1, 1]
['□', '□', '□', 'O', 'O', 'O']
['□', '□', '□', 'O', '□', 'O']
['*', 'F', 'F', 'L', 'O', 'O']
['□', '□', '□', 'F', '□', '□']
['□', '□', '□', 'F', '□', '□']

Expanded Nodes
(2, 0, 1)
(2, 1, 2)
(2, 1, 1)
(2, 1, 0)
(2, 2, 2)
(2, 2, 1)
(2, 2, 0)
(2, 3, 2)
(2, 3, 1)
(2, 3, 0)
(1, 3, 3)
(1, 3, 2)
(1, 3, 1)
(2, 4, 2)
(2, 4, 1)
(2, 4, 0)
(3, 3, 1)
(3, 3, 0)
(3, 3, 3)
(0, 3, 3)
```