Structure of the Grid :-

```
 ---------------------
|  0 |  1 |  2 |  3 |
 ---------------------
|  4 |  5 |  6 |  7 |
 ---------------------
|  8 |  9 | 10 | 11 |
 ---------------------
| 12 | 13 | 14 | 15 |
 ---------------------
```

Due to the random nature of Q-learning, sometimes the actions are not completed successfully. To account for this the program is recommended to be run multiple times.

RUNNING THE CODE: **python ai4.py**
To view full qvalue table uncomment – #print (qvals)

OUTPUT1

```
Enter Wall value:3
Enter value for Goal between 13 and 15: 15
Enter value for Badbox between 6 and 12: 4
Enter the value of Q we want to obtain:7
States through which the agent transition
[0, 1, 2, 6, 7, 11, 15]
--------------------------------
Actions taken by the agent
['right', 'right', 'down', 'right',  'down', 'down']
--------------------------------
Q Value Table
   up           down           left          right
[59.38861786 70.59434092 53.03342987 61.97046698]
```

OUTPUT 2

```
Enter Wall value:3
Enter value for Goal between 13 and 15: 14
Enter value for Badbox between 6 and 12: 6
Enter the value of Q we want to obtain:13
States through which the agent transition
[0, 4, 8, 12, 13, 14]
--------------------------------
Actions taken by the agent
['down', 'down', 'down', 'right', 'right']
--------------------------------
Q Value Table
   up            down          left         right
[53.51090456 74.5778828  61.62502561 84.65552446]
```