```
N-Queens Problem using hill climbing approach
Enter the number of queens
Enter the number of trials you want to want to try the algorithms
#Trail 1
* 0 * * * * *
* * * * * Q * *
* * * * 0 * * *
0 * 0 * * * * *
* * * 0 * * * *
* * * * * * 0 *
* * * * * * *
* * * * * * * 0
The heuristic value of the original board is: 4
Better board found at column 0 with heuristic: 4
* 0 * * * * *
* * * * * 0 * *
0 * * * 0 * * *
* * 0 * * * * *
* * * 0 * * * *
* * * * * * 0 *
* * * * * * *
* * * * * * * 0
Better board found at column 0 with heuristic: 4
* 0 * * * * *
* * * * * 0 * *
* * * * 0 * * *
0 * 0 * * * *
* * * 0 * * * *
* * * * * * 0 *
* * * * * * *
* * * * * * * 0
Better board found at column 0 with heuristic: 4
* 0 * * * * *
* * * * * 0 * *
* * * * 0 * * *
* * 0 * * * * *
0 * * 0 * * * *
* * * * * * 0 *
* * * * * * *
* * * * * * * 0
Better board found at column 1 with heuristic: 4
* * * * * * *
* * * * * 0 * *
* * * * 0 * * *
* * 0 * * * * *
0 * * 0 * * * *
* * * * * * 0 *
* 0 * * * * *
* * * * * * * 0
Better board found at column 1 with heuristic: 4
```

```
* * * * * * *
* * * * * 0 * *
* * * * 0 * * *
* * 0 * * * * *
0 * * 0 * * * *
* * * * * * 0 *
* * * * * * *
* 0 * * * * * 0
Better board found at column 2 with heuristic: 4
* * 0 * * * * *
* * * * * 0 * *
* * * * 0 * * *
* * * * * * *
0 * * 0 * * * *
* * * * * * 0 *
* * * * * * *
* 0 * * * * * 0
Better board found at column 2 with heuristic: 4
* * * * * * *
* * * * * 0 * *
* * * * Q * * *
* * 0 * * * * *
0 * * 0 * * * *
* * * * * * Q *
* * * * * * *
* 0 * * * * * 0
Better board found at column 3 with heuristic: 2
* * * 0 * * * *
* * * * * 0 * *
* * * * 0 * * *
* * 0 * * * * *
0 * * * * * *
* * * * * * 0 *
* * * * * * *
* 0 * * * * * 0
Better board found at column 3 with heuristic: 2
* * * * * * *
* * * * * Q * *
* * * * 0 * * *
* * 0 * * * * *
0 * * * * * *
* * * * * * Q *
* * * 0 * * * *
* 0 * * * * * 0
Better board found at column 4 with heuristic : 2
* * * * * * *
* * * * * Q * *
* * * * 0 * * *
* * 0 * * * * *
0 * * * * * *
* * * * * * 0 *
* * * 0 * * * *
```

```
* 0 * * * * * 0
Better board found at column 4 with heuristic : 2
* * * * * * *
* * * * * 0 * *
* * * * * * *
* * 0 * * * * *
0 * * * * * *
* * * * * * 0 *
* * * 0 0 * * *
* 0 * * * * * 0
Better board found at column 5 with heuristic: 2
* * * * * * *
* * * * * 0 * *
* * * * * * *
* * 0 * * * *
0 * * * * * *
* * * * * * 0 *
* * * 0 0 * * *
* 0 * * * * * 0
Better board found at column 5 with heuristic : 2
* * * * * * *
* * * * * * *
* * * * * 0 * *
* * 0 * * * * *
0 * * * * * *
* * * * * * 0 *
* * * 0 0 * * *
* 0 * * * * * 0
Better board found at column 6 with heuristic: 2
* * * * * * 0 *
* * * * * * * *
* * * * * 0 * *
* * 0 * * * * *
0 * * * * * *
* * * * * * *
* * * 0 0 * * *
* 0 * * * * * 0
Better board found at column 6 with heuristic : 2
* * * * * * *
* * * * * * *
* * * * * 0 * *
* * 0 * * * * *
0 * * * * * *
* * * * * * 0 *
* * * 0 0 * * *
* 0 * * * * * 0
Better board found at column 7 with heuristic : 2
* * * * * * * 0
* * * * * * *
* * * * * Q * *
* * 0 * * * * *
0 * * * * * *
```

```
* * * * * * 0 *
* * * 0 0 * * *
* 0 * * * * *
Better board found at column 7 with heuristic : 2
* * * * * * *
* * * * * * * 0
* * * * * Q * *
* * 0 * * * * *
0 * * * * * *
* * * * * * Q *
* * * 0 0 * * *
* 0 * * * * *
Better board found at column 7 with heuristic : 2
* * * * * * *
* * * * * * *
* * * * * 0 * *
* * 0 * * * * *
0 * * * * * *
* * * * * * 0 0
* * * Q Q * * *
* 0 * * * * *
Better board found at column 7 with heuristic : 2
* * * * * * *
* * * * * * *
* * * * * 0 * *
* * 0 * * * *
0 * * * * * *
* * * * * * 0 *
* * * 0 0 * * *
* 0 * * * * * 0
Better board found at column 0 with heuristic : 2
* * * * * * *
* * * * * * *
* * * * * 0 * *
* * 0 * * * * *
0 * * * * * *
* * * * * * 0 *
* * * 0 0 * * *
* Q * * * * * Q
Better board found at column 1 with heuristic : 2
* 0 * * * * *
* * * * * * *
* * * * * 0 * *
* * 0 * * * *
0 * * * * * *
* * * * * * 0 *
* * * 0 0 * * *
* * * * * * * 0
Better board found at column 1 with heuristic : 2
* * * * * * *
* 0 * * * * *
* * * * * 0 * *
```

```
* * 0 * * * * *
0 * * * * * *
* * * * * * 0 *
* * * 0 0 * * *
* * * * * * * 0
Better board found at column 1 with heuristic : 2
* * * * * * *
* * * * * * *
* * * * * 0 * *
* * 0 * * * * *
0 * * * * * *
* * * * * * 0 *
* * * 0 0 * * *
* 0 * * * * * 0
Better board found at column 2 with heuristic: 2
* * 0 * * * * *
* * * * * * *
* * * * * 0 * *
* * * * * * *
0 * * * * * *
* * * * * * 0 *
* * * 0 0 * * *
* 0 * * * * * 0
Better board found at column 2 with heuristic : 2
* * * * * * *
* * * * * * *
* * * * * 0 * *
* * 0 * * * * *
0 * * * * * *
* * * * * * 0 *
* * * 0 0 * * *
* 0 * * * * * 0
Better board found at column 3 with heuristic : 2
* * * 0 * * * *
* * * * * * *
* * * * * 0 * *
* * 0 * * * * *
0 * * * * * *
* * * * * * 0 *
* * * * 0 * * *
* 0 * * * * * 0
Better board found at column 3 with heuristic : 2
* * * * * * *
* * * 0 * * * *
* * * * * Q * *
* * 0 * * * * *
0 * * * * * *
* * * * * * 0 *
* * * * Q * * *
* 0 * * * * * 0
Better board found at column 3 with heuristic : 2
* * * * * * *
```

```
* * * * * * *
* * * * * 0 * *
* * 0 * * * * *
0 * * * * * *
* * * * * * 0 *
* * * 0 0 * * *
* 0 * * * * * 0
Better board found at column 4 with heuristic: 2
* * * * 0 * * *
* * * * * * *
* * * * * 0 * *
* * 0 * * * * *
0 * * * * * *
* * * * * * Q *
* * * 0 * * * *
* 0 * * * * * 0
Better board found at column 4 with heuristic : 2
* * * * * * *
* * * * * * *
* * * * 0 0 * *
* * 0 * * * * *
0 * * * * * *
* * * * * * 0 *
* * * 0 * * * *
* 0 * * * * * 0
Better board found at column 4 with heuristic : 2
* * * * * * *
* * * * * * *
* * * * * 0 * *
* * 0 * * * * *
0 * * * * * *
* * * * * * Q *
* * * 0 0 * * *
* 0 * * * * * 0
Better board found at column 5 with heuristic : 2
* * * * * * *
* * * * * 0 * *
* * * * * * *
* * Q * * * * *
0 * * * * * *
* * * * * * 0 *
* * * 0 0 * * *
* 0 * * * * * 0
Better board found at column 5 with heuristic : 2
* * * * * * *
* * * * * * *
* * * * * 0 * *
* * 0 * * * *
0 * * * * * *
* * * * * * 0 *
* * * 0 0 * * *
* 0 * * * * * 0
```

```
Better board found at column 6 with heuristic: 2
* * * * * * 0 *
* * * * * * *
* * * * * 0 * *
* * 0 * * * * *
0 * * * * * *
* * * * * * *
* * * 0 0 * * *
* 0 * * * * * 0
Better board found at column 6 with heuristic : 2
* * * * * * *
* * * * * * *
* * * * * 0 * *
* * 0 * * * * *
0 * * * * * *
* * * * * * 0 *
* * * 0 0 * * *
* 0 * * * * * 0
Better board found at column 7 with heuristic : 2
* * * * * * * 0
* * * * * * *
* * * * * 0 * *
* * 0 * * * *
0 * * * * * *
* * * * * * 0 *
* * * 0 0 * * *
* 0 * * * * *
Better board found at column 7 with heuristic : 2
* * * * * * *
* * * * * * * 0
* * * * * 0 * *
* * 0 * * * * *
0 * * * * * *
* * * * * * 0 *
* * * 0 0 * * *
* 0 * * * * *
Better board found at column 7 with heuristic : 2
* * * * * * *
* * * * * * *
* * * * * 0 * *
* * 0 * * * * *
0 * * * * * *
* * * * * * 0 0
* * * 0 0 * * *
* 0 * * * * *
Better board found at column 7 with heuristic: 2
* * * * * * *
* * * * * * *
* * * * * 0 * *
* * 0 * * * *
0 * * * * * *
* * * * * * 0 *
```

```
* * * 0 0 * * *
* 0 * * * * * 0
Better board found at column 0 with heuristic : 2
* * * * * * *
* * * * * * *
* * * * * 0 * *
* * 0 * * * * *
0 * * * * * *
* * * * * * 0 *
* * * Q Q * * *
* 0 * * * * * 0
Better board found at column 1 with heuristic : 2
* 0 * * * * *
* * * * * * *
* * * * * 0 * *
* * 0 * * * * *
0 * * * * * *
* * * * * * 0 *
* * * 0 0 * * *
* * * * * * * 0
Better board found at column 1 with heuristic : 2
* * * * * * *
* 0 * * * * *
* * * * * 0 * *
* * 0 * * * *
0 * * * * * *
* * * * * * 0 *
* * * 0 0 * * *
* * * * * * * 0
Better board found at column 1 with heuristic : 2
* * * * * * *
* * * * * * *
* * * * * 0 * *
* * 0 * * * * *
0 * * * * * *
* * * * * * 0 *
* * * 0 0 * * *
* 0 * * * * * 0
Better board found at column 2 with heuristic : 2
* * 0 * * * * *
* * * * * * *
* * * * * Q * *
* * * * * * *
0 * * * * * *
* * * * * * 0 *
* * * Q Q * * *
* 0 * * * * * 0
Better board found at column 2 with heuristic : 2
* * * * * * *
* * * * * * *
* * * * * Q * *
* * 0 * * * * *
```

```
0 * * * * * *
* * * * * * 0 *
* * * 0 0 * * *
* 0 * * * * * 0
Better board found at column 3 with heuristic: 2
* * * 0 * * * *
* * * * * * *
* * * * * 0 * *
* * 0 * * * * *
0 * * * * * *
* * * * * * 0 *
* * * * 0 * * *
* 0 * * * * * 0
Better board found at column 3 with heuristic: 2
* * * * * * *
* * * 0 * * * *
* * * * * 0 * *
* * 0 * * * * *
0 * * * * * *
* * * * * * 0 *
* * * * Q * * *
* 0 * * * * * 0
Better board found at column 3 with heuristic : 2
* * * * * * *
* * * * * * *
* * * * * 0 * *
* * 0 * * * * *
0 * * * * * *
* * * * * * 0 *
* * * 0 0 * * *
* 0 * * * * * 0
Better board found at column 4 with heuristic: 2
* * * * 0 * * *
* * * * * * *
* * * * * Q * *
* * 0 * * * * *
0 * * * * * *
* * * * * * Q *
* * * 0 * * * *
* 0 * * * * * 0
Better board found at column 4 with heuristic : 2
* * * * * * *
* * * * * * *
* * * * Q Q * *
* * 0 * * * * *
0 * * * * * *
* * * * * * 0 *
* * * 0 * * * *
* 0 * * * * * 0
Better board found at column 4 with heuristic: 2
* * * * * * *
* * * * * * *
```

```
* * * * * 0 * *
* * 0 * * * *
0 * * * * * *
* * * * * * 0 *
* * * 0 0 * * *
* 0 * * * * * 0
Better board found at column 5 with heuristic: 2
* * * * * * *
* * * * * 0 * *
* * * * * * *
* * 0 * * * * *
0 * * * * * *
* * * * * * 0 *
* * * 0 0 * * *
* 0 * * * * * 0
Better board found at column 5 with heuristic : 2
* * * * * * *
* * * * * * *
* * * * * 0 * *
* * Q * * * * *
0 * * * * * *
* * * * * * 0 *
* * * 0 0 * * *
* 0 * * * * * 0
Better board found at column 6 with heuristic : 2
* * * * * * 0 *
* * * * * * *
* * * * * 0 * *
* * 0 * * * * *
0 * * * * * *
* * * * * * *
* * * 0 0 * * *
* 0 * * * * * 0
Better board found at column 6 with heuristic : 2
* * * * * * *
* * * * * * *
* * * * * 0 * *
* * 0 * * * * *
0 * * * * * *
* * * * * * 0 *
* * * 0 0 * * *
* 0 * * * * * 0
Better board found at column 7 with heuristic : 2
* * * * * * * 0
* * * * * * *
* * * * * 0 * *
* * 0 * * * * *
0 * * * * * *
* * * * * * 0 *
* * * Q Q * * *
* 0 * * * * *
Better board found at column 7 with heuristic : 2
```

```
* * * * * * *
* * * * * * * 0
* * * * * 0 * *
* * 0 * * * * *
0 * * * * * *
* * * * * * 0 *
* * * 0 0 * * *
* 0 * * * * *
Better board found at column 7 with heuristic : 2
* * * * * * *
* * * * * * *
* * * * * 0 * *
* * 0 * * * * *
0 * * * * * *
* * * * * * 0 0
* * * 0 0 * * *
* 0 * * * * *
Better board found at column 7 with heuristic : 2
* * * * * * *
* * * * * * *
* * * * * 0 * *
* * 0 * * * * *
0 * * * * * *
* * * * * * 0 *
* * * 0 0 * * *
* 0 * * * * * 0
Better board found at column 0 with heuristic : 2
* * * * * * *
* * * * * * *
* * * * * 0 * *
* * 0 * * * * *
0 * * * * * *
* * * * * * 0 *
* * * 0 0 * * *
* 0 * * * * * 0
Better board found at column 1 with heuristic : 2
* 0 * * * * *
* * * * * * *
* * * * * 0 * *
* * 0 * * * * *
0 * * * * * *
* * * * * * Q *
* * * 0 0 * * *
* * * * * * * 0
Better board found at column 1 with heuristic : 2
* * * * * * *
* 0 * * * * *
* * * * * 0 * *
* * Q * * * * *
0 * * * * * *
* * * * * * 0 *
* * * 0 0 * * *
```

```
* * * * * * * 0
Better board found at column 1 with heuristic : 2
* * * * * * *
* * * * * * *
* * * * * 0 * *
* * 0 * * * * *
0 * * * * * *
* * * * * * 0 *
* * * 0 0 * * *
* 0 * * * * * 0
Better board found at column 2 with heuristic: 2
* * 0 * * * * *
* * * * * * *
* * * * * Q * *
* * * * * * *
0 * * * * * *
* * * * * * 0 *
* * * 0 0 * * *
* 0 * * * * * 0
Better board found at column 2 with heuristic : 2
* * * * * * *
* * * * * * *
* * * * * 0 * *
* * 0 * * * * *
0 * * * * * *
* * * * * * 0 *
* * * 0 0 * * *
* 0 * * * * * 0
Better board found at column 3 with heuristic: 2
* * * 0 * * * *
* * * * * * *
* * * * * 0 * *
* * 0 * * * * *
0 * * * * * *
* * * * * * Q *
* * * * 0 * * *
* 0 * * * * * 0
Better board found at column 3 with heuristic : 2
* * * * * * *
* * * 0 * * * *
* * * * * Q * *
* * 0 * * * * *
0 * * * * * *
* * * * * * 0 *
* * * * Q * * *
* 0 * * * * * 0
Better board found at column 3 with heuristic : 2
* * * * * * *
* * * * * * *
* * * * * Q * *
* * 0 * * * * *
0 * * * * * *
```

```
* * * * * * 0 *
* * * 0 0 * * *
* 0 * * * * * 0
Better board found at column 4 with heuristic: 2
* * * * 0 * * *
* * * * * * *
* * * * * Q * *
* * 0 * * * * *
0 * * * * * *
* * * * * * Q *
* * * 0 * * * *
* 0 * * * * * 0
Better board found at column 4 with heuristic : 2
* * * * * * *
* * * * * * *
* * * * 0 0 * *
* * 0 * * * * *
0 * * * * * *
* * * * * * 0 *
* * * 0 * * * *
* 0 * * * * * 0
Better board found at column 4 with heuristic : 2
* * * * * * *
* * * * * * *
* * * * * 0 * *
* * 0 * * * *
0 * * * * * *
* * * * * * 0 *
* * * 0 0 * * *
* 0 * * * * * 0
Better board found at column 5 with heuristic : 2
* * * * * * *
* * * * * 0 * *
* * * * * * *
* * 0 * * * * *
0 * * * * * *
* * * * * * 0 *
* * * 0 0 * * *
* 0 * * * * * 0
Better board found at column 5 with heuristic : 2
* * * * * * *
* * * * * * *
* * * * * 0 * *
* * 0 * * * *
0 * * * * * *
* * * * * * 0 *
* * * 0 0 * * *
* 0 * * * * * 0
Better board found at column 6 with heuristic : 2
* * * * * * 0 *
* * * * * * *
* * * * * 0 * *
```

```
* * 0 * * * * *
0 * * * * * *
* * * * * * *
* * * 0 0 * * *
* 0 * * * * * 0
Better board found at column 6 with heuristic : 2
* * * * * * *
* * * * * * *
* * * * * 0 * *
* * 0 * * * * *
0 * * * * * *
* * * * * * 0 *
* * * 0 0 * * *
* 0 * * * * * 0
Better board found at column 7 with heuristic : 2
* * * * * * * 0
* * * * * * *
* * * * * 0 * *
* * 0 * * * * *
0 * * * * * *
* * * * * * 0 *
* * * 0 0 * * *
* 0 * * * * *
Better board found at column 7 with heuristic : 2
* * * * * * *
* * * * * * * 0
* * * * * 0 * *
* * 0 * * * * *
0 * * * * * *
* * * * * * 0 *
* * * 0 0 * * *
* 0 * * * * *
Better board found at column 7 with heuristic : 2
* * * * * * *
* * * * * * *
* * * * * 0 * *
* * 0 * * * * *
0 * * * * * *
* * * * * * 0 0
* * * 0 0 * * *
* 0 * * * * *
Better board found at column 7 with heuristic : 2
* * * * * * *
* * * * * * *
* * * * * Q * *
* * 0 * * * * *
0 * * * * * *
* * * * * * 0 *
* * * Q Q * * *
* 0 * * * * * 0
Better board found at column 0 with heuristic : 2
* * * * * * *
```

```
* * * * * * *
* * * * * 0 * *
* * 0 * * * * *
0 * * * * * *
* * * * * * 0 *
* * * 0 0 * * *
* 0 * * * * * 0
Better board found at column 1 with heuristic : 2
* 0 * * * * *
* * * * * * *
* * * * * 0 * *
* * 0 * * * * *
0 * * * * * *
* * * * * * 0 *
* * * 0 0 * * *
* * * * * * * 0
Better board found at column 1 with heuristic : 2
* * * * * * *
* 0 * * * * *
* * * * * 0 * *
* * 0 * * * * *
0 * * * * * *
* * * * * * 0 *
* * * 0 0 * * *
* * * * * * * 0
Better board found at column 1 with heuristic : 2
* * * * * * *
* * * * * * *
* * * * * 0 * *
* * 0 * * * * *
0 * * * * * *
* * * * * * Q *
* * * 0 0 * * *
* 0 * * * * * 0
Better board found at column 2 with heuristic : 2
* * 0 * * * * *
* * * * * * *
* * * * * Q * *
* * * * * * *
0 * * * * * *
* * * * * * 0 *
* * * 0 0 * * *
* 0 * * * * * 0
Better board found at column 2 with heuristic : 2
* * * * * * *
* * * * * * *
* * * * * 0 * *
* * 0 * * * *
0 * * * * * *
* * * * * * 0 *
* * * 0 0 * * *
* 0 * * * * * 0
```

```
Better board found at column 3 with heuristic: 2
* * * 0 * * * *
* * * * * * *
* * * * * 0 * *
* * 0 * * * * *
0 * * * * * *
* * * * * * 0 *
* * * * 0 * * *
* 0 * * * * * 0
Better board found at column 3 with heuristic : 2
* * * * * * *
* * * 0 * * * *
* * * * * 0 * *
* * 0 * * * * *
0 * * * * * *
* * * * * * 0 *
* * * * Q * * *
* 0 * * * * * 0
Better board found at column 3 with heuristic: 2
* * * * * * *
* * * * * * *
* * * * * 0 * *
* * 0 * * * *
0 * * * * * *
* * * * * * 0 *
* * * 0 0 * * *
* 0 * * * * * 0
Better board found at column 4 with heuristic : 2
* * * * 0 * * *
* * * * * * *
* * * * * 0 * *
* * 0 * * * * *
0 * * * * * *
* * * * * * 0 *
* * * Q * * * *
* 0 * * * * * 0
Better board found at column 4 with heuristic : 2
* * * * * * *
* * * * * * *
* * * * 0 0 * *
* * 0 * * * * *
0 * * * * * *
* * * * * * 0 *
* * * 0 * * * *
* 0 * * * * * 0
Better board found at column 4 with heuristic : 2
* * * * * * *
* * * * * * *
* * * * * 0 * *
* * 0 * * * *
0 * * * * * *
* * * * * * 0 *
```

```
* * * 0 0 * * *
* 0 * * * * * 0
Better board found at column 5 with heuristic : 2
* * * * * * *
* * * * * 0 * *
* * * * * * *
* * Q * * * * *
0 * * * * * *
* * * * * * 0 *
* * * Q Q * * *
* 0 * * * * * 0
Better board found at column 5 with heuristic : 2
* * * * * * *
* * * * * * *
* * * * * 0 * *
* * 0 * * * * *
0 * * * * * *
* * * * * * 0 *
* * * 0 0 * * *
* 0 * * * * * 0
Better board found at column 6 with heuristic : 2
* * * * * * 0 *
* * * * * * *
* * * * * 0 * *
* * 0 * * * *
0 * * * * * *
* * * * * * * *
* * * 0 0 * * *
* 0 * * * * * 0
Better board found at column 6 with heuristic : 2
* * * * * * *
* * * * * * *
* * * * * 0 * *
* * 0 * * * * *
0 * * * * * *
* * * * * * 0 *
* * * 0 0 * * *
* 0 * * * * * 0
Better board found at column 7 with heuristic : 2
* * * * * * * 0
* * * * * * *
* * * * * Q * *
* * 0 * * * * *
0 * * * * * *
* * * * * * 0 *
* * * Q Q * * *
* 0 * * * * *
Better board found at column 7 with heuristic : 2
* * * * * * *
* * * * * * * 0
* * * * * Q * *
* * 0 * * * * *
```

```
0 * * * * * *
* * * * * * 0 *
* * * 0 0 * * *
* 0 * * * * *
Better board found at column 7 with heuristic : 2
* * * * * * *
* * * * * * *
* * * * * 0 * *
* * 0 * * * * *
0 * * * * * *
* * * * * * 0 0
* * * 0 0 * * *
* 0 * * * * *
Better board found at column 7 with heuristic : 2
* * * * * * *
* * * * * * *
* * * * * 0 * *
* * 0 * * * * *
0 * * * * * *
* * * * * * 0 *
* * * Q Q * * *
* 0 * * * * * 0
Better board found at column 0 with heuristic : 2
* * * * * * *
* * * * * * *
* * * * * 0 * *
* * 0 * * * * *
0 * * * * * *
* * * * * * 0 *
* * * 0 0 * * *
* 0 * * * * * 0
Better board found at column 1 with heuristic : 2
* 0 * * * * *
* * * * * * *
* * * * * Q * *
* * 0 * * * * *
0 * * * * * *
* * * * * * 0 *
* * * 0 0 * * *
* * * * * * * 0
Better board found at column 1 with heuristic : 2
* * * * * * *
* 0 * * * * *
* * * * * 0 * *
* * 0 * * * * *
0 * * * * * *
* * * * * * 0 *
* * * 0 0 * * *
* * * * * * * 0
Better board found at column 1 with heuristic : 2
* * * * * * *
* * * * * * *
```

```
* * * * * 0 * *
* * 0 * * * *
0 * * * * * *
* * * * * * 0 *
* * * 0 0 * * *
* 0 * * * * * 0
Better board found at column 2 with heuristic : 2
* * 0 * * * *
* * * * * * *
* * * * * 0 * *
* * * * * * *
0 * * * * * *
* * * * * * 0 *
* * * 0 0 * * *
* 0 * * * * * 0
Better board found at column 2 with heuristic: 2
* * * * * * *
* * * * * * *
* * * * * 0 * *
* * Q * * * * *
0 * * * * * *
* * * * * * 0 *
* * * 0 0 * * *
* 0 * * * * * 0
Better board found at column 3 with heuristic: 2
* * * 0 * * * *
* * * * * * *
* * * * * 0 * *
* * 0 * * * * *
0 * * * * * *
* * * * * * 0 *
* * * * 0 * * *
* 0 * * * * * 0
Better board found at column 3 with heuristic: 2
* * * * * * *
* * * 0 * * * *
* * * * * 0 * *
* * 0 * * * * *
0 * * * * * *
* * * * * * 0 *
* * * * Q * * *
* 0 * * * * * 0
Better board found at column 3 with heuristic: 2
* * * * * * *
* * * * * * *
* * * * * 0 * *
* * 0 * * * * *
0 * * * * * *
* * * * * * 0 *
* * * Q Q * * *
* 0 * * * * * 0
Better board found at column 4 with heuristic : 2
```

```
* * * * 0 * * *
* * * * * * *
* * * * * 0 * *
* * 0 * * * * *
0 * * * * * *
* * * * * * 0 *
* * * Q * * * *
* 0 * * * * * 0
Better board found at column 4 with heuristic : 2
* * * * * * *
* * * * * * *
* * * * 0 0 * *
* * 0 * * * * *
0 * * * * * *
* * * * * * 0 *
* * * 0 * * * *
* 0 * * * * * 0
Better board found at column 4 with heuristic : 2
* * * * * * *
* * * * * * *
* * * * * 0 * *
* * 0 * * * * *
0 * * * * * *
* * * * * * 0 *
* * * 0 0 * * *
* 0 * * * * * 0
Better board found at column 5 with heuristic : 2
* * * * * * *
* * * * * 0 * *
* * * * * * *
* * 0 * * * * *
0 * * * * * *
* * * * * * 0 *
* * * 0 0 * * *
* 0 * * * * * 0
Better board found at column 5 with heuristic : 2
* * * * * * *
* * * * * * *
* * * * * 0 * *
* * 0 * * * * *
0 * * * * * *
* * * * * * Q *
* * * 0 0 * * *
* 0 * * * * * 0
Better board found at column 6 with heuristic : 2
* * * * * * 0 *
* * * * * * *
* * * * * 0 * *
* * Q * * * * *
0 * * * * * *
* * * * * * *
* * * 0 0 * * *
```

```
* 0 * * * * * 0
Better board found at column 6 with heuristic : 2
* * * * * * *
* * * * * * *
* * * * * 0 * *
* * 0 * * * * *
0 * * * * * *
* * * * * * 0 *
* * * 0 0 * * *
* 0 * * * * * 0
Better board found at column 7 with heuristic: 2
* * * * * * * 0
* * * * * * *
* * * * * Q * *
* * 0 * * * * *
0 * * * * * *
* * * * * * 0 *
* * * 0 0 * * *
* 0 * * * * *
Better board found at column 7 with heuristic : 2
* * * * * * *
* * * * * * * 0
* * * * * 0 * *
* * 0 * * * * *
0 * * * * * *
* * * * * * 0 *
* * * 0 0 * * *
* 0 * * * * *
Better board found at column 7 with heuristic : 2
* * * * * * *
* * * * * * *
* * * * * 0 * *
* * 0 * * * * *
0 * * * * * *
* * * * * * 0 0
* * * 0 0 * * *
* 0 * * * * *
Better board found at column 7 with heuristic : 2
* * * * * * *
* * * * * * *
* * * * * 0 * *
* * 0 * * * * *
0 * * * * * *
* * * * * * 0 *
* * * 0 0 * * *
* 0 * * * * * 0
Better board found at column 0 with heuristic : 2
* * * * * * *
* * * * * * *
* * * * * Q * *
* * 0 * * * * *
0 * * * * * *
```

```
* * * * * * 0 *
* * * 0 0 * * *
* 0 * * * * * 0
Better board found at column 1 with heuristic : 2
* 0 * * * * *
* * * * * * *
* * * * * Q * *
* * 0 * * * * *
0 * * * * * *
* * * * * * Q *
* * * 0 0 * * *
* * * * * * * Q
Better board found at column 1 with heuristic : 2
* * * * * * *
* 0 * * * * *
* * * * * 0 * *
* * Q * * * * *
0 * * * * * *
* * * * * * 0 *
* * * Q Q * * *
* * * * * * * 0
Better board found at column 1 with heuristic : 2
* * * * * * *
* * * * * * *
* * * * * 0 * *
* * 0 * * * *
0 * * * * * *
* * * * * * 0 *
* * * 0 0 * * *
* 0 * * * * * 0
Better board found at column 2 with heuristic : 2
* * 0 * * * * *
* * * * * * *
* * * * * 0 * *
* * * * * * *
0 * * * * * *
* * * * * * 0 *
* * * 0 0 * * *
* 0 * * * * * 0
Better board found at column 2 with heuristic: 2
* * * * * * *
* * * * * * *
* * * * * 0 * *
* * 0 * * * *
0 * * * * * *
* * * * * * 0 *
* * * 0 0 * * *
* 0 * * * * * 0
Better board found at column 3 with heuristic : 2
* * * 0 * * * *
* * * * * * *
* * * * * 0 * *
```

```
* * 0 * * * * *
0 * * * * * *
* * * * * * 0 *
* * * * 0 * * *
* 0 * * * * * 0
Better board found at column 3 with heuristic : 2
* * * * * * *
* * * 0 * * * *
* * * * * 0 * *
* * 0 * * * * *
0 * * * * * *
* * * * * * 0 *
* * * * 0 * * *
* 0 * * * * * 0
Better board found at column 3 with heuristic: 2
* * * * * * *
* * * * * * *
* * * * * 0 * *
* * Q * * * * *
0 * * * * * *
* * * * * * 0 *
* * * 0 0 * * *
* 0 * * * * * 0
Better board found at column 4 with heuristic : 2
* * * * 0 * * *
* * * * * * *
* * * * * 0 * *
* * 0 * * * * *
0 * * * * * *
* * * * * * 0 *
* * * 0 * * * *
* 0 * * * * * 0
Better board found at column 4 with heuristic : 2
* * * * * * *
* * * * * * *
* * * * 0 0 * *
* * 0 * * * * *
0 * * * * * *
* * * * * * 0 *
* * * 0 * * * *
* 0 * * * * * 0
Better board found at column 4 with heuristic : 2
* * * * * * *
* * * * * * *
* * * * * Q * *
* * 0 * * * * *
0 * * * * * *
* * * * * * 0 *
* * * Q Q * * *
* 0 * * * * * 0
Better board found at column 5 with heuristic : 2
* * * * * * *
```

```
* * * * * 0 * *
* * * * * * *
* * 0 * * * * *
0 * * * * * *
* * * * * * 0 *
* * * 0 0 * * *
* 0 * * * * * 0
Better board found at column 5 with heuristic : 2
* * * * * * *
* * * * * * *
* * * * * 0 * *
* * 0 * * * * *
0 * * * * * *
* * * * * * 0 *
* * * 0 0 * * *
* 0 * * * * * 0
Better board found at column 6 with heuristic : 2
* * * * * * 0 *
* * * * * * *
* * * * * 0 * *
* * 0 * * * * *
0 * * * * * *
* * * * * * *
* * * 0 0 * * *
* 0 * * * * * 0
Better board found at column 6 with heuristic : 2
* * * * * * *
* * * * * * *
* * * * * 0 * *
* * 0 * * * * *
0 * * * * * *
* * * * * * Q *
* * * 0 0 * * *
* 0 * * * * * 0
Better board found at column 7 with heuristic : 2
* * * * * * * 0
* * * * * * *
* * * * * Q * *
* * Q * * * * *
0 * * * * * *
* * * * * * 0 *
* * * 0 0 * * *
* 0 * * * * *
Better board found at column 7 with heuristic : 2
* * * * * * *
* * * * * * * 0
* * * * * 0 * *
* * 0 * * * *
0 * * * * * *
* * * * * * 0 *
* * * 0 0 * * *
* 0 * * * * *
```

```
Better board found at column 7 with heuristic : 2
* * * * * * *
* * * * * * *
* * * * * 0 * *
* * 0 * * * * *
0 * * * * * *
* * * * * * 0 0
* * * 0 0 * * *
* 0 * * * * *
Better board found at column 7 with heuristic : 2
* * * * * * *
* * * * * * *
* * * * * 0 * *
* * 0 * * * * *
0 * * * * * *
* * * * * * 0 *
* * * 0 0 * * *
* 0 * * * * * 0
Better board found at column 0 with heuristic : 2
* * * * * * *
* * * * * * *
* * * * * 0 * *
* * 0 * * * *
0 * * * * * *
* * * * * * 0 *
* * * 0 0 * * *
* 0 * * * * * 0
Better board found at column 1 with heuristic : 2
* 0 * * * * *
* * * * * * *
* * * * * 0 * *
* * 0 * * * * *
0 * * * * * *
* * * * * * 0 *
* * * 0 0 * * *
* * * * * * * 0
Better board found at column 1 with heuristic : 2
* * * * * * *
* 0 * * * * *
* * * * * 0 * *
* * 0 * * * * *
0 * * * * * *
* * * * * * 0 *
* * * 0 0 * * *
* * * * * * * 0
Better board found at column 1 with heuristic: 2
* * * * * * *
* * * * * * *
* * * * * 0 * *
* * 0 * * * *
0 * * * * * *
* * * * * * 0 *
```

```
* * * 0 0 * * *
* 0 * * * * * 0
Better board found at column 2 with heuristic : 2
* * 0 * * * *
* * * * * * *
* * * * * 0 * *
* * * * * * *
0 * * * * * *
* * * * * * 0 *
* * * Q Q * * *
* 0 * * * * * 0
Better board found at column 2 with heuristic : 2
* * * * * * *
* * * * * * *
* * * * * 0 * *
* * 0 * * * * *
0 * * * * * *
* * * * * * 0 *
* * * 0 0 * * *
* 0 * * * * * 0
Better board found at column 3 with heuristic : 2
* * * 0 * * * *
* * * * * * *
* * * * * 0 * *
* * 0 * * * *
0 * * * * * *
* * * * * * Q *
* * * * 0 * * *
* 0 * * * * * 0
Better board found at column 3 with heuristic: 2
* * * * * * *
* * * 0 * * * *
* * * * * 0 * *
* * 0 * * * * *
0 * * * * * *
* * * * * * 0 *
* * * * 0 * * *
* 0 * * * * * 0
Better board found at column 3 with heuristic : 2
* * * * * * *
* * * * * * *
* * * * * Q * *
* * 0 * * * * *
0 * * * * * *
* * * * * * Q *
* * * Q Q * * *
* 0 * * * * * 0
Better board found at column 4 with heuristic : 2
* * * * Q * * *
* * * * * * *
* * * * * Q * *
* * 0 * * * * *
```

```
0 * * * * * *
* * * * * * 0 *
* * * 0 * * * *
* 0 * * * * * 0
Better board found at column 4 with heuristic: 2
* * * * * * *
* * * * * * *
* * * * 0 0 * *
* * 0 * * * * *
0 * * * * * *
* * * * * * 0 *
* * * 0 * * * *
* 0 * * * * * 0
Better board found at column 4 with heuristic: 2
* * * * * * *
* * * * * * *
* * * * * 0 * *
* * 0 * * * * *
0 * * * * * *
* * * * * * 0 *
* * * Q Q * * *
* 0 * * * * * 0
Better board found at column 5 with heuristic : 2
* * * * * * *
* * * * * 0 * *
* * * * * * *
* * 0 * * * * *
0 * * * * * *
* * * * * * 0 *
* * * 0 0 * * *
* 0 * * * * * 0
Better board found at column 5 with heuristic : 2
* * * * * * *
* * * * * * *
* * * * * Q * *
* * 0 * * * * *
0 * * * * * *
* * * * * * 0 *
* * * 0 0 * * *
* 0 * * * * * 0
Better board found at column 6 with heuristic : 2
* * * * * * 0 *
* * * * * * *
* * * * * 0 * *
* * 0 * * * * *
0 * * * * * *
* * * * * * *
* * * 0 0 * * *
* 0 * * * * * 0
Better board found at column 6 with heuristic: 2
* * * * * * *
* * * * * * *
```

```
* * * * * 0 * *
* * 0 * * * *
0 * * * * * *
* * * * * * 0 *
* * * 0 0 * * *
* 0 * * * * * 0
Better board found at column 7 with heuristic : 2
* * * * * * * 0
* * * * * * *
* * * * * Q * *
* * Q * * * * *
0 * * * * * *
* * * * * * 0 *
* * * 0 0 * * *
* 0 * * * * *
Better board found at column 7 with heuristic : 2
* * * * * * *
* * * * * * * 0
* * * * * 0 * *
* * Q * * * * *
0 * * * * * *
* * * * * * 0 *
* * * 0 0 * * *
* 0 * * * * *
Better board found at column 7 with heuristic: 2
* * * * * * *
* * * * * * *
* * * * * 0 * *
* * 0 * * * * *
0 * * * * * *
* * * * * * 0 0
* * * 0 0 * * *
* Q * * * * * *
Better board found at column 7 with heuristic : 2
* * * * * * *
* * * * * * *
* * * * * 0 * *
* * 0 * * * * *
0 * * * * * *
* * * * * * 0 *
* * * 0 0 * * *
* 0 * * * * * 0
Better board found at column 0 with heuristic : 2
* * * * * * *
* * * * * * *
* * * * * 0 * *
* * 0 * * * *
0 * * * * * *
* * * * * * 0 *
* * * Q Q * * *
* 0 * * * * * 0
Better board found at column 1 with heuristic : 2
```

```
* 0 * * * * *
* * * * * * *
* * * * * 0 * *
* * 0 * * * * *
0 * * * * * *
* * * * * * 0 *
* * * 0 0 * * *
* * * * * * * 0
Better board found at column 1 with heuristic : 2
* * * * * * *
* 0 * * * * *
* * * * * 0 * *
* * 0 * * * * *
0 * * * * * *
* * * * * * 0 *
* * * 0 0 * * *
* * * * * * * 0
Better board found at column 1 with heuristic : 2
* * * * * * *
* * * * * * *
* * * * * 0 * *
* * 0 * * * * *
0 * * * * * *
* * * * * * 0 *
* * * 0 0 * * *
* 0 * * * * * 0
Better board found at column 2 with heuristic: 2
* * 0 * * * * *
* * * * * * *
* * * * * 0 * *
* * * * * * *
0 * * * * * *
* * * * * * 0 *
* * * 0 0 * * *
* 0 * * * * * 0
Better board found at column 2 with heuristic: 2
* * * * * * *
* * * * * * *
* * * * * 0 * *
* * 0 * * * * *
0 * * * * * *
* * * * * * Q *
* * * 0 0 * * *
* 0 * * * * * 0
Better board found at column 3 with heuristic : 2
* * * 0 * * * *
* * * * * * *
* * * * * 0 * *
* * 0 * * * * *
0 * * * * * *
* * * * * * 0 *
* * * * 0 * * *
```

```
* 0 * * * * * 0
Better board found at column 3 with heuristic : 2
* * * * * * *
* * * 0 * * * *
* * * * * 0 * *
* * 0 * * * * *
0 * * * * * *
* * * * * * Q *
* * * * 0 * * *
* 0 * * * * * 0
Better board found at column 3 with heuristic: 2
* * * * * * *
* * * * * * *
* * * * * Q * *
* * 0 * * * * *
0 * * * * * *
* * * * * * 0 *
* * * 0 0 * * *
* 0 * * * * * 0
Better board found at column 4 with heuristic : 2
* * * * 0 * * *
* * * * * * *
* * * * * 0 * *
* * 0 * * * * *
0 * * * * * *
* * * * * * 0 *
* * * 0 * * * *
* 0 * * * * * 0
Better board found at column 4 with heuristic : 2
* * * * * * *
* * * * * * *
* * * * 0 0 * *
* * 0 * * * * *
0 * * * * * *
* * * * * * 0 *
* * * 0 * * * *
* 0 * * * * * 0
Better board found at column 4 with heuristic : 2
* * * * * * *
* * * * * * *
* * * * * 0 * *
* * 0 * * * * *
0 * * * * * *
* * * * * * 0 *
* * * 0 0 * * *
* 0 * * * * * 0
Better board found at column 5 with heuristic : 2
* * * * * * *
* * * * * 0 * *
* * * * * * *
* * 0 * * * * *
0 * * * * * *
```

```
* * * * * * 0 *
* * * 0 0 * * *
* 0 * * * * * 0
Better board found at column 5 with heuristic : 2
* * * * * * *
* * * * * * *
* * * * * 0 * *
* * 0 * * * * *
0 * * * * * *
* * * * * * Q *
* * * 0 0 * * *
* 0 * * * * * 0
Better board found at column 6 with heuristic : 2
* * * * * * Q *
* * * * * * *
* * * * * 0 * *
* * 0 * * * * *
0 * * * * * *
* * * * * * *
* * * 0 0 * * *
* 0 * * * * * 0
Better board found at column 6 with heuristic: 2
* * * * * * *
* * * * * * *
* * * * * 0 * *
* * 0 * * * *
0 * * * * * *
* * * * * * 0 *
* * * 0 0 * * *
* 0 * * * * * 0
Better board found at column 7 with heuristic : 2
* * * * * * * 0
* * * * * * *
* * * * * 0 * *
* * 0 * * * * *
0 * * * * * *
* * * * * * 0 *
* * * 0 0 * * *
* 0 * * * * *
Better board found at column 7 with heuristic: 2
* * * * * * *
* * * * * * * 0
* * * * * 0 * *
* * 0 * * * *
0 * * * * * *
* * * * * * 0 *
* * * 0 0 * * *
* 0 * * * * *
Better board found at column 7 with heuristic : 2
* * * * * * *
* * * * * * *
* * * * * 0 * *
```

```
* * 0 * * * * *
0 * * * * * *
* * * * * * 0 0
* * * 0 0 * * *
* 0 * * * * *
Better board found at column 7 with heuristic : 2
* * * * * * *
* * * * * * *
* * * * * 0 * *
* * 0 * * * * *
0 * * * * * *
* * * * * * 0 *
* * * 0 0 * * *
* 0 * * * * * 0
Better board found at column 0 with heuristic : 2
* * * * * * *
* * * * * * *
* * * * * 0 * *
* * Q * * * * *
0 * * * * * *
* * * * * * 0 *
* * * 0 0 * * *
* 0 * * * * * 0
Better board found at column 1 with heuristic : 2
* 0 * * * * *
* * * * * * *
* * * * * 0 * *
* * 0 * * * * *
0 * * * * * *
* * * * * * 0 *
* * * 0 0 * * *
* * * * * * * 0
Better board found at column 1 with heuristic : 2
* * * * * * *
* 0 * * * * *
* * * * * 0 * *
* * 0 * * * * *
0 * * * * * *
* * * * * * 0 *
* * * 0 0 * * *
* * * * * * * 0
Better board found at column 1 with heuristic : 2
* * * * * * *
* * * * * * *
* * * * * Q * *
* * 0 * * * * *
0 * * * * * *
* * * * * * 0 *
* * * Q Q * * *
* 0 * * * * * 0
Better board found at column 2 with heuristic : 2
* * Q * * * * *
```

```
* * * * * * *
* * * * * 0 * *
* * * * * * *
0 * * * * * *
* * * * * * 0 *
* * * 0 0 * * *
* 0 * * * * * 0
Better board found at column 2 with heuristic: 2
* * * * * * *
* * * * * * *
* * * * * 0 * *
* * 0 * * * * *
0 * * * * * *
* * * * * * 0 *
* * * 0 0 * * *
* 0 * * * * * 0
Better board found at column 3 with heuristic : 2
* * * 0 * * * *
* * * * * * *
* * * * * 0 * *
* * 0 * * * * *
0 * * * * * *
* * * * * * 0 *
* * * * 0 * * *
* 0 * * * * * 0
Better board found at column 3 with heuristic : 2
* * * * * * *
* * * 0 * * * *
* * * * * 0 * *
* * 0 * * * * *
0 * * * * * *
* * * * * * Q *
* * * * 0 * * *
* 0 * * * * * 0
Better board found at column 3 with heuristic : 2
* * * * * * *
* * * * * * *
* * * * * Q * *
* * Q * * * * *
0 * * * * * *
* * * * * * 0 *
* * * 0 0 * * *
* 0 * * * * * 0
Better board found at column 4 with heuristic : 2
* * * * Q * * *
* * * * * * *
* * * * * 0 * *
* * 0 * * * * *
0 * * * * * *
* * * * * * 0 *
* * * 0 * * * *
* 0 * * * * * 0
```

```
Better board found at column 4 with heuristic : 2
* * * * * * *
* * * * * * *
* * * * 0 0 * *
* * 0 * * * * *
0 * * * * * *
* * * * * * 0 *
* * * 0 * * * *
* 0 * * * * * 0
Better board found at column 4 with heuristic : 2
* * * * * * *
* * * * * * *
* * * * * 0 * *
* * 0 * * * * *
0 * * * * * *
* * * * * * 0 *
* * * 0 0 * * *
* 0 * * * * * 0
Better board found at column 5 with heuristic : 2
* * * * * * *
* * * * * 0 * *
* * * * * * *
* * 0 * * * *
0 * * * * * *
* * * * * * 0 *
* * * 0 0 * * *
* 0 * * * * * 0
Better board found at column 5 with heuristic : 2
* * * * * * *
* * * * * * *
* * * * * 0 * *
* * 0 * * * * *
0 * * * * * *
* * * * * * 0 *
* * * 0 0 * * *
* 0 * * * * * 0
Better board found at column 6 with heuristic : 2
* * * * * * 0 *
* * * * * * *
* * * * * 0 * *
* * 0 * * * * *
0 * * * * * *
* * * * * * *
* * * 0 0 * * *
* 0 * * * * * 0
Better board found at column 6 with heuristic: 2
* * * * * * *
* * * * * * *
* * * * * 0 * *
* * 0 * * * *
0 * * * * * *
* * * * * * 0 *
```

```
* * * 0 0 * * *
* 0 * * * * * 0
Better board found at column 7 with heuristic : 2
* * * * * * * 0
* * * * * * *
* * * * * 0 * *
* * 0 * * * * *
0 * * * * * *
* * * * * * 0 *
* * * Q Q * * *
* 0 * * * * *
Better board found at column 7 with heuristic : 2
* * * * * * *
* * * * * * * 0
* * * * * 0 * *
* * 0 * * * * *
0 * * * * * *
* * * * * * 0 *
* * * 0 0 * * *
* 0 * * * * *
Better board found at column 7 with heuristic : 2
* * * * * * *
* * * * * * *
* * * * * 0 * *
* * 0 * * * *
0 * * * * * *
* * * * * * 0 0
* * * 0 0 * * *
* 0 * * * * *
Better board found at column 7 with heuristic : 2
* * * * * * *
* * * * * * *
* * * * * 0 * *
* * 0 * * * * *
0 * * * * * *
* * * * * * 0 *
* * * 0 0 * * *
* 0 * * * * * 0
Randomly restarting...
* * * * * * *
* * * * * * * 0
0 * * * * 0 * *
* * * * 0 * 0 *
* * * * * * *
* * 0 0 * * * *
* 0 * * * * *
* * * * * * *
The heuristic value of the original board is: 12
Better board found at column 0 with heuristic : 10
0 * * * * * *
* * * * * * * 0
* * * * * 0 * *
```

```
* * * * 0 * 0 *
* * * * * * *
* * 0 0 * * * *
* 0 * * * * *
* * * * * * *
Better board found at column 0 with heuristic : 10
* * * * * * *
* * * * * * * 0
* * * * * 0 * *
* * * * Q * Q *
0 * * * * * *
* * 0 0 * * * *
* 0 * * * * *
* * * * * * * *
Better board found at column 1 with heuristic: 8
* 0 * * * * *
* * * * * * * 0
* * * * * 0 * *
* * * * 0 * 0 *
0 * * * * * *
* * 0 0 * * * *
* * * * * * *
* * * * * * *
Better board found at column 1 with heuristic : 8
* * * * * * *
* 0 * * * * * 0
* * * * * 0 * *
* * * * 0 * 0 *
0 * * * * * *
* * 0 0 * * * *
* * * * * * *
* * * * * * *
Better board found at column 1 with heuristic: 8
* * * * * * *
* * * * * * * 0
* 0 * * * 0 * *
* * * * 0 * 0 *
0 * * * * * *
* * 0 0 * * * *
* * * * * * *
* * * * * * *
Better board found at column 2 with heuristic : 5
* * 0 * * * * *
* * * * * * * 0
* 0 * * * 0 * *
* * * * Q * Q *
0 * * * * * *
* * * 0 * * * *
* * * * * * *
* * * * * * *
Better board found at column 3 with heuristic : 5
* * Q * * * * *
```

```
* * * * * * * 0
* 0 * * * 0 * *
* * * * 0 * 0 *
0 * * * * * *
* * * 0 * * * *
* * * * * * *
* * * * * * *
Better board found at column 3 with heuristic : 5
* * 0 * * * * *
* * * * * * * 0
* 0 * * * 0 * *
* * * * 0 * 0 *
0 * * * * * *
* * * * * * *
* * * 0 * * * *
* * * * * * *
Better board found at column 3 with heuristic : 5
* * 0 * * * * *
* * * * * * * 0
* 0 * * * 0 * *
* * * * Q * Q *
0 * * * * * *
* * * * * * *
* * * * * * *
* * * 0 * * * *
Better board found at column 4 with heuristic : 5
* * 0 * 0 * * *
* * * * * * * 0
* 0 * * * 0 * *
* * * * * * 0 *
0 * * * * * *
* * * * * * *
* * * * * * *
* * * 0 * * * *
Better board found at column 4 with heuristic : 5
* * 0 * * * * *
* * * * * * * 0
* 0 * * * 0 * *
* * * * 0 * 0 *
0 * * * * * *
* * * * * * *
* * * * * * *
* * * 0 * * * *
Better board found at column 4 with heuristic : 5
* * 0 * * * * *
* * * * * * * 0
* 0 * * * 0 * *
* * * * * * 0 *
0 * * * 0 * * *
* * * * * * *
* * * * * * *
* * * 0 * * * *
```

```
Better board found at column 4 with heuristic : 5
* * 0 * * * * *
* * * * * * * 0
* 0 * * * 0 * *
* * * * * * 0 *
0 * * * * * *
* * * * 0 * * *
* * * * * * *
* * * 0 * * * *
Better board found at column 4 with heuristic : 4
* * 0 * * * *
* * * * * * * 0
* 0 * * * 0 * *
* * * * * * Q *
0 * * * * * *
* * * * * * *
* * * * Q * * *
* * * 0 * * * *
Better board found at column 4 with heuristic : 4
* * Q * * * * *
* * * * * * * 0
* 0 * * * 0 * *
* * * * * * 0 *
0 * * * * * *
* * * * * * *
* * * * * * *
* * * 0 0 * * *
Better board found at column 5 with heuristic : 3
* * 0 * * 0 * *
* * * * * * * 0
* 0 * * * * *
* * * * * * 0 *
0 * * * * * *
* * * * * * *
* * * * * * *
* * * 0 0 * * *
Better board found at column 5 with heuristic : 3
* * 0 * * * * *
* * * * * Q * Q
* 0 * * * * *
* * * * * * 0 *
0 * * * * * *
* * * * * * *
* * * * * * *
* * * 0 0 * * *
Better board found at column 5 with heuristic : 3
* * 0 * * * *
* * * * * * * 0
* 0 * * * * *
* * * * * * 0 *
0 * * * * * *
* * * * * 0 * *
```

```
* * * * * * *
* * * 0 0 * * *
Better board found at column 6 with heuristic : 3
* * 0 * * * *
* * * * * * * 0
* 0 * * * * *
* * * * * * Q *
0 * * * * * * *
* * * * * 0 * *
* * * * * * *
* * * 0 0 * * *
Better board found at column 7 with heuristic : 3
* * 0 * * * * *
* * * * * * * 0
* 0 * * * * *
* * * * * * Q *
0 * * * * * *
* * * * * 0 * *
* * * * * * *
* * * 0 0 * * *
Better board found at column 7 with heuristic : 3
* * 0 * * * * *
* * * * * * *
* 0 * * * * *
* * * * * * 0 *
0 * * * * * *
* * * * * 0 * *
* * * * * * * 0
* * * 0 0 * * *
Better board found at column 0 with heuristic : 3
* * 0 * * * * *
0 * * * * * *
* 0 * * * * *
* * * * * * 0 *
* * * * * * *
* * * * * 0 * *
* * * * * * * 0
* * * 0 0 * * *
Better board found at column 0 with heuristic : 3
* * 0 * * * * *
* * * * * * *
* 0 * * * * *
* * * * * * 0 *
0 * * * * * *
* * * * * Q * *
* * * * * * * 0
* * * 0 0 * * *
Better board found at column 0 with heuristic : 3
* * Q * * * * *
* * * * * * *
* 0 * * * * *
* * * * * * 0 *
```

```
* * * * * * *
0 * * * * 0 * *
* * * * * * * 0
* * * 0 0 * * *
Better board found at column 0 with heuristic : 3
* * 0 * * * * *
* * * * * * *
* 0 * * * * *
* * * * * * 0 *
* * * * * * *
* * * * * 0 * *
0 * * * * * * 0
* * * 0 0 * * *
Better board found at column 1 with heuristic : 3
* * 0 * * * * *
* * * * * * *
* 0 * * * * *
* * * * * * 0 *
* * * * * * *
* * * * * 0 * *
0 * * * * * * 0
* * * 0 0 * * *
Better board found at column 3 with heuristic : 2
* * 0 * * * * *
* * * 0 * * * *
* 0 * * * * *
* * * * * * 0 *
* * * * * * *
* * * * * 0 * *
0 * * * * * * 0
* * * * 0 * * *
Better board found at column 3 with heuristic: 2
* * 0 * * * * *
* * * * * * *
* 0 * * * * *
* * * * * * 0 *
* * * 0 * * * *
* * * * * Q * *
0 * * * * * * 0
* * * * 0 * * *
Better board found at column 3 with heuristic : 2
* * 0 * * * *
* * * * * * *
* 0 * * * * *
* * * * * * 0 *
* * * * * * *
* * * 0 * 0 * *
0 * * * * * * 0
* * * * 0 * * *
Better board found at column 4 with heuristic : 2
* * 0 * * * * *
* * * * * * *
```

```
* 0 * * * * *
* * * * * * 0 *
* * * * * * *
* * * 0 * 0 * *
0 * * * * * * 0
* * * * 0 * * *
Better board found at column 5 with heuristic: 2
* * 0 * * 0 * *
* * * * * * *
* 0 * * * * *
* * * * * * 0 *
* * * * * * *
* * * 0 * * * *
0 * * * * * * 0
* * * * 0 * * *
Better board found at column 5 with heuristic : 2
* * 0 * * * * *
* * * * * 0 * *
* 0 * * * * *
* * * * * * 0 *
* * * * * * *
* * * 0 * * * *
0 * * * * * * 0
* * * * 0 * * *
Better board found at column 5 with heuristic : 2
* * 0 * * * * *
* * * * * * *
* 0 * * * * *
* * * * * * 0 *
* * * * * * *
* * * 0 * 0 * *
0 * * * * * * 0
* * * * 0 * * *
Better board found at column 6 with heuristic : 2
* * 0 * * * * *
* * * * * * 0 *
* 0 * * * * *
* * * * * * *
* * * * * * *
* * * 0 * 0 * *
0 * * * * * * 0
* * * * Q * * *
Better board found at column 6 with heuristic : 2
* * 0 * * * * *
* * * * * * *
* 0 * * * * *
* * * * * * 0 *
* * * * * * *
* * * Q * Q * *
0 * * * * * * 0
* * * * 0 * * *
Better board found at column 7 with heuristic : 2
```

```
* * 0 * * * * 0
* * * * * * *
* 0 * * * * *
* * * * * * 0 *
* * * * * * *
* * * 0 * 0 * *
0 * * * * * *
* * * * 0 * * *
Better board found at column 7 with heuristic : 2
* * 0 * * * * *
* * * * * * * 0
* 0 * * * * *
* * * * * * 0 *
* * * * * * *
* * * 0 * 0 * *
0 * * * * * *
* * * * 0 * * *
Better board found at column 7 with heuristic : 2
* * 0 * * * * *
* * * * * * *
* 0 * * * * *
* * * * * * 0 *
* * * * * * *
* * * 0 * 0 * *
0 * * * * * * 0
* * * * 0 * * *
Better board found at column 0 with heuristic : 2
* * 0 * * * * *
0 * * * * * *
* 0 * * * * *
* * * * * * 0 *
* * * * * * *
* * * 0 * 0 * *
* * * * * * * 0
* * * * Q * * *
Better board found at column 0 with heuristic : 1
* * 0 * * * * *
* * * * * * *
* 0 * * * * *
* * * * * * 0 *
0 * * * * * *
* * * Q * Q * *
* * * * * * * 0
* * * * Q * * *
Better board found at column 1 with heuristic : 1
* * Q * * * * *
* * * * * * *
* 0 * * * * *
* * * * * * 0 *
0 * * * * * *
* * * 0 * 0 * *
* * * * * * * 0
```

```
* * * * 0 * * *
Better board found at column 3 with heuristic: 1
* * 0 * * * * *
* * * * * * *
* 0 * * * * *
* * * * * * 0 *
0 * * * * * *
* * * 0 * 0 * *
* * * * * * * 0
* * * * Q * * *
Better board found at column 4 with heuristic: 1
* * 0 * * * * *
* * * * * * *
* 0 * * * * *
* * * * * * 0 *
0 * * * * * *
* * * Q * Q * *
* * * * * * * 0
* * * * 0 * * *
Better board found at column 5 with heuristic : 1
* * 0 * * 0 * *
* * * * * * *
* 0 * * * * *
* * * * * * 0 *
0 * * * * * *
* * * 0 * * * *
* * * * * * * 0
* * * * 0 * * *
Better board found at column 5 with heuristic: 0
* * 0 * * * * *
* * * * * 0 * *
* 0 * * * * *
* * * * * * 0 *
0 * * * * * *
* * * 0 * * * *
* * * * * * * 0
* * * * 0 * * *
Better board found at column 6 with heuristic: 0
* * Q * * * * *
* * * * * 0 * *
* 0 * * * * *
* * * * * * 0 *
0 * * * * * *
* * * 0 * * * *
* * * * * * * 0
* * * * 0 * * *
Better board found at column 7 with heuristic : 0
* * 0 * * * *
* * * * * 0 * *
* 0 * * * * *
* * * * * * 0 *
0 * * * * * *
```