

PART ONE

EPISODE 0

N(s), S(s), V(s)

```
[[0. 0. 0. 0. 0.]
 [0. 0. 0. 0. 0.]
 [0. 0. 0. 0. 0.]
 [0. 0. 0. 0. 0.]
 [0. 0. 0. 0. 0.]]
```

EPISODE 1

TABLE

k	row	col	r	y	G(s)
1	3	3	-1.0	0.9	-4.68559
2	4	3	-1.0	0.9	-4.0951
3	3	3	-1.0	0.9	-3.439
4	4	3	-1.0	0.9	-2.71
5	3	3	-1.0	0.9	-1.9
6	4	3	-1.0	0.9	-1.0
7	4	4	-1.0	0.9	0.0

N(s) grid

```
[[0. 0. 0. 0. 0.]
 [0. 0. 0. 0. 0.]
 [0. 0. 0. 0. 0.]
 [0. 0. 0. 1. 0.]
 [0. 0. 0. 1. 0.]]
```

S(s) grid

```
[[ 0.  0.  0.  0.  0. ]
 [ 0.  0.  0.  0.  0. ]
 [ 0.  0.  0.  0.  0. ]
 [ 0.  0.  0. -4.69 0. ]
 [ 0.  0.  0. -4.1  0. ]]
```

V(s) grid

```
[[ 0.  0.  0.  0.  0. ]
 [ 0.  0.  0.  0.  0. ]
 [ 0.  0.  0.  0.  0. ]
 [ 0.  0.  0. -4.69 0. ]
 [ 0.  0.  0. -4.1  0. ]]
```

EPISODE 10

TABLE

k	row	col	r	γ	G(s)
1	2	2	-1.0	0.9	-9.958254420820705
2	2	1	-1.0	0.9	-9.953616023134117
3	2	0	-1.0	0.9	-9.948462247926797
4	2	1	-1.0	0.9	-9.942735831029774
5	2	2	-1.0	0.9	-9.936373145588638
6	3	2	-1.0	0.9	-9.929303495098488
7	4	2	-1.0	0.9	-9.921448327887209
...
47	2	0	-1.0	0.9	-4.68559
48	1	0	-1.0	0.9	-4.0951
49	2	0	-1.0	0.9	-3.439
50	1	0	-1.0	0.9	-2.71
51	2	0	-1.0	0.9	-1.9
52	1	0	-1.0	0.9	-1.0
53	0	0	-1.0	0.9	0.0

Length = 53 rows

N(s) grid

```
[[0. 4. 4. 4. 3.]
 [5. 4. 4. 4. 3.]
 [6. 4. 4. 4. 2.]
 [5. 6. 6. 7. 5.]
 [5. 5. 6. 7. 0.]]
```

S(s) grid

```
[[ 0. -35.18 -35.57 -32.96 -28.98]
 [-37.54 -29.19 -36.17 -30.55 -29.08]
 [-52.05 -39.05 -39.14 -35.49 -19.82]
 [-42.81 -54.89 -55.67 -44.54 -28.74]
 [-40.44 -38.77 -39.89 -38.65  0.  ]]
```

V(s) grid

```
[[ 0. -8.8 -8.89 -8.24 -9.66]
 [-7.51 -7.3 -9.04 -7.64 -9.69]
 [-8.68 -9.76 -9.78 -8.87 -9.91]
 [-8.56 -9.15 -9.28 -6.36 -5.75]
 [-8.09 -7.75 -6.65 -5.52  0.  ]]
```

EPISODE 575

TABLE

k	row	col	r	y	G(s)
1	2	4	-1.0	0.9	-9.65663161797075
2	2	3	-1.0	0.9	-9.618479575523054
3	2	2	-1.0	0.9	-9.576088417247838
4	3	2	-1.0	0.9	-9.528987130275375
5	3	3	-1.0	0.9	-9.476652366972639
6	4	3	-1.0	0.9	-9.418502629969598
7	3	3	-1.0	0.9	-9.353891811077332
...
27	2	2	-1.0	0.9	-4.68559
28	1	2	-1.0	0.9	-4.0951
29	1	1	-1.0	0.9	-3.439
30	0	1	-1.0	0.9	-2.71
31	1	1	-1.0	0.9	-1.9
32	0	1	-1.0	0.9	-1.0
33	0	0	-1.0	0.9	0.0

Length = 33 rows

N(s) grid

```
[[ 0. 247. 253. 243. 211.]
 [243. 310. 335. 288. 256.]
 [236. 322. 345. 323. 269.]
 [225. 294. 301. 292. 251.]
 [200. 243. 267. 254. 0.]]
```

S(s) grid

```
[[ 0. -1264.14 -1940.91 -2048.8 -1800.03]
 [-1301.51 -2088.09 -2658.12 -2450.86 -2151.7 ]
 [-1798.17 -2593.53 -2841.45 -2623.86 -2063.97]
 [-1868.33 -2496.73 -2485.36 -2156.01 -1318.1 ]
 [-1704.06 -2057.99 -2023.69 -1416.34 0. ]]
```

V(s) grid

```
[[ 0. -5.12 -7.67 -8.43 -8.53]
 [-5.36 -6.74 -7.93 -8.51 -8.41]
 [-7.62 -8.05 -8.24 -8.12 -7.67]
 [-8.3 -8.49 -8.26 -7.38 -5.25]
 [-8.52 -8.47 -7.58 -5.58 0. ]]
```

PART TWO

EPISODE 0

N(s), S(s), V(s)

```
[[0. 0. 0. 0. 0.]
 [0. 0. 0. 0. 0.]
 [0. 0. 0. 0. 0.]
 [0. 0. 0. 0. 0.]
 [0. 0. 0. 0. 0.]]
```

EPISODE 1

TABLE

k	row	col	r	γ	G(s)
1	3	4	-1.0	0.9	-1.0
2	4	4	-1.0	0.9	0.0

N(s) grid

```
[[0. 0. 0. 0. 0.]
 [0. 0. 0. 0. 0.]
 [0. 0. 0. 0. 0.]
 [0. 0. 0. 0. 1.]
 [0. 0. 0. 0. 0.]]
```

S(s) grid

```
[[ 0.  0.  0.  0.  0.]
 [ 0.  0.  0.  0.  0.]
 [ 0.  0.  0.  0.  0.]
 [ 0.  0.  0.  0. -1.]
 [ 0.  0.  0.  0.  0.]]
```

V(s) grid

```
[[ 0.  0.  0.  0.  0.]
 [ 0.  0.  0.  0.  0.]
 [ 0.  0.  0.  0.  0.]
 [ 0.  0.  0.  0. -1.]
 [ 0.  0.  0.  0.  0.]]
```

EPISODE 10

TABLE

k	row	col	r	y	G(s)
1	2	2	-1.0	0.9	-9.98820981542226
2	3	2	-1.0	0.9	-9.986899794913622
3	3	1	-1.0	0.9	-9.985444216570691
4	3	0	-1.0	0.9	-9.983826907300768
5	4	0	-1.0	0.9	-9.982029897000855
6	3	0	-1.0	0.9	-9.980033218889838
7	2	0	-1.0	0.9	-9.977814687655377
...
59	2	2	-1.0	0.9	-4.68559
60	2	1	-1.0	0.9	-4.0951
61	2	0	-1.0	0.9	-3.439
62	2	1	-1.0	0.9	-2.71
63	1	1	-1.0	0.9	-1.9
64	1	0	-1.0	0.9	-1.0
65	0	0	-1.0	0.9	0.0

Length = 65 rows

N(s) grid

```
[[0. 5. 4. 5. 3.]
 [5. 7. 7. 6. 4.]
 [3. 5. 7. 5. 4.]
 [5. 6. 7. 6. 6.]
 [3. 5. 5. 4. 0.]]
```

S(s) grid

```
[[ 0. -36.73 -35.41 -41.6 -26.11]
 [-24.69 -42.76 -59.88 -54.58 -33.97]
 [-23.68 -38.72 -61.8 -46.92 -30.53]
 [-43.62 -47.92 -60. -43.61 -29.28]
 [-29.61 -41.34 -38.7 -23.97 0. ]]
```

V(s) grid

```
[[ 0. -7.35 -8.85 -8.32 -8.7 ]
 [-4.94 -6.11 -8.55 -9.1 -8.49]
 [-7.89 -7.74 -8.83 -9.38 -7.63]
 [-8.72 -7.99 -8.57 -7.27 -4.88]
 [-9.87 -8.27 -7.74 -5.99 0. ]]
```

EPISODE 559

TABLE

k	row	col	r	γ	G(s)
1	4	1	-1.0	0.9	-9.113706188034751
2	4	2	-1.0	0.9	-9.01522909781639
3	4	3	-1.0	0.9	-8.905810108684877
4	4	2	-1.0	0.9	-8.784233454094307
5	4	3	-1.0	0.9	-8.649148282327008
6	3	3	-1.0	0.9	-8.499053647030008
7	2	3	-1.0	0.9	-8.332281830033342
...
18	1	1	-1.0	0.9	-4.68559
19	1	0	-1.0	0.9	-4.0951
20	1	1	-1.0	0.9	-3.439
21	2	1	-1.0	0.9	-2.71
22	1	1	-1.0	0.9	-1.9
23	0	1	-1.0	0.9	-1.0
24	0	0	-1.0	0.9	0.0

Length = 24 rows

N(s) grid

```
[[ 0. 229. 235. 228. 202.]
 [257. 314. 316. 279. 237.]
 [243. 308. 312. 297. 250.]
 [220. 263. 299. 308. 241.]
 [166. 206. 230. 233. 0.]]
```

S(s) grid

```
[[ 0. -1261.81 -1820.85 -1968.85 -1730.17]
 [-1365.51 -2208.82 -2513.45 -2365.36 -1993.79]
 [-1812.74 -2423.51 -2533.96 -2374.94 -1865.47]
 [-1812.93 -2204.26 -2379.56 -2177.44 -1269.07]
 [-1419.71 -1743.79 -1730.41 -1216.05 0. ]]
```

V(s) grid

```
[[ 0. -5.51 -7.75 -8.64 -8.57]
 [-5.31 -7.03 -7.95 -8.48 -8.41]
 [-7.46 -7.87 -8.12 -8. -7.46]
 [-8.24 -8.38 -7.96 -7.07 -5.27]
 [-8.55 -8.47 -7.52 -5.22 0. ]]
```

[illegible]

[illegible]

*** EPISODE 1 ***

OGrid (Normalized)

[illegible]

EPISODE 10

QGrid (Normalized)

```
[[100. 56.18 0. 0. 0. 74.81 0. 0. 0. 0.
  0. 0. 0. 0. 0. 0. 0. 0. 0.
  0. 0. 0. 0. 0. ]
 [ 95.62 0. 63.98 0. 0. 0. 69.84 0. 0. 0.
  0. 0. 0. 0. 0. 0. 0. 0. 0.
  0. 0. 0. 0. 0. ]
 [ 0. 78.72 0. 48.86 0. 0. 0. 58.73 0. 0.
  0. 0. 0. 0. 0. 0. 0. 0. 0.
  0. 0. 0. 0. 0. ]
 [ 0. 0. 60.74 0. 40.91 0. 0. 0. 43.84 0.
  0. 0. 0. 0. 0. 0. 0. 0. 0.
  0. 0. 0. 0. 0. ]
 [ 0. 0. 0. 46.19 0. 0. 0. 0. 0. 39.19
  0. 0. 0. 0. 0. 0. 0. 0. 0.
  0. 0. 0. 0. 0. ]
 [ 94.91 0. 0. 0. 0. 0. 67.1 0. 0. 0.
  66.43 0. 0. 0. 0. 0. 0. 0. 0.
  0. 0. 0. 0. 0. ]
 [ 0. 77.29 0. 0. 0. 73.87 0. 60.43 0. 0.
  0. 55.61 0. 0. 0. 0. 0. 0. 0.
  0. 0. 0. 0. 0. ]
 [ 0. 0. 56.32 0. 0. 0. 67.2 0. 46.2 0.
  0. 0. 52.79 0. 0. 0. 0. 0. 0.
  0. 0. 0. 0. 0. ]
 [ 0. 0. 0. 46.55 0. 0. 0. 51.33 0. 39.46
  0. 0. 0. 40.89 0. 0. 0. 0. 0.
  0. 0. 0. 0. 0. ]
 [ 0. 0. 0. 0. 40.91 0. 0. 0. 43.84 0.
  0. 0. 0. 0. 38.13 0. 0. 0. 0.
  0. 0. 0. 0. 0. ]
 [ 0. 0. 0. 0. 0. 77.97 0. 0. 0. 0.
  0. 43.68 0. 0. 0. 50.47 0. 0. 0. 0.
  0. 0. 0. 0. 0. ]
 [ 0. 0. 0. 0. 0. 0. 65.59 0. 0. 0.
  62.19 0. 45.97 0. 0. 0. 45.58 0. 0. 0.
  0. 0. 0. 0. 0. ]
 [ 0. 0. 0. 0. 0. 0. 0. 58.36 0. 0.
  0. 50.24 0. 40.28 0. 0. 0. 42.96 0. 0.
  0. 0. 0. 0. 0. ]
 [ 0. 0. 0. 0. 0. 0. 0. 0. 43.84 0.
  0. 0. 47.73 0. 39.95 0. 0. 43.74 0.
  0. 0. 0. 0. 0. ]
 [ 0. 0. 0. 0. 0. 0. 0. 0. 0. 39.46
  0. 0. 0. 38.49 0. 0. 0. 0. 46.74
  0. 0. 0. 0. 0. ]
 [ 0. 0. 0. 0. 0. 0. 0. 0. 0. 0.
  56.4 0. 0. 0. 0. 0. 40.74 0. 0. 0.
  31.29 0. 0. 0. 0. 0. ]
 [ 0. 0. 0. 0. 0. 0. 0. 0. 0. 0.
  0. 55.53 0. 0. 0. 43.03 0. 31.02 0. 0.
  0. 35.56 0. 0. 0. 0. ]
 [ 0. 0. 0. 0. 0. 0. 0. 0. 0. 0.
  0. 0. 50.14 0. 0. 0. 43.79 0. 41.76 0.
  0. 0. 42.13 0. 0. 0. ]
 [ 0. 0. 0. 0. 0. 0. 0. 0. 0. 0.
  0. 0. 0. 40.33 0. 0. 0. 37.6 0. 49.52
  0. 0. 0. 49.68 0. 0. ]
 [ 0. 0. 0. 0. 0. 0. 0. 0. 0. 0.
  0. 0. 0. 0. 42.06 0. 0. 0. 42.52 0.
  0. 0. 0. 0. 59.72]
 [ 0. 0. 0. 0. 0. 0. 0. 0. 0. 0.
  0. 0. 0. 0. 0. 41.19 0. 0. 0. 0.
  0. 32.65 0. 0. 0. ]
 [ 0. 0. 0. 0. 0. 0. 0. 0. 0. 0.
  0. 0. 0. 0. 0. 0. 47.57 0. 0. 0.
  30.31 0. 42.86 0. 0. 0. ]
 [ 0. 0. 0. 0. 0. 0. 0. 0. 0. 0.
  0. 0. 0. 0. 0. 0. 0. 40.2 0. 0.
  0. 36.62 0. 48.93 0. 0. ]
 [ 0. 0. 0. 0. 0. 0. 0. 0. 0. 0.
  0. 0. 0. 0. 0. 0. 0. 0. 46.24 0.
  0. 0. 41.62 0. 61.12]
 [ 0. 0. 0. 0. 0. 0. 0. 0. 0. 0.
  0. 0. 0. 0. 0. 0. 0. 0. 48.36
  0. 0. 0. 45.54 58.05]]
```

EPISODE 489

QGrid (Normalized)

```
[[100. 89.45 0. 0. 0. 89.77 0. 0. 0. 0.
  0. 0. 0. 0. 0. 0. 0. 0. 0.
  0. 0. 0. 0. 0. ]
 [ 99.93 0. 80.68 0. 0. 0. 80.79 0. 0. 0.
  0. 0. 0. 0. 0. 0. 0. 0. 0.
  0. 0. 0. 0. 0. ]
 [ 0. 89.8 0. 72.49 0. 0. 0. 72.66 0. 0.
  0. 0. 0. 0. 0. 0. 0. 0. 0.
  0. 0. 0. 0. 0. ]
 [ 0. 0. 80.65 0. 65.18 0. 0. 0. 65.23 0.
  0. 0. 0. 0. 0. 0. 0. 0. 0.
  0. 0. 0. 0. 0. ]
 [ 0. 0. 0. 72.44 0. 0. 0. 0. 0. 71.98
  0. 0. 0. 0. 0. 0. 0. 0. 0.
  0. 0. 0. 0. 0. ]
 [ 99.92 0. 0. 0. 0. 0. 80.75 0. 0. 0.
  80.75 0. 0. 0. 0. 0. 0. 0. 0.
  0. 0. 0. 0. 0. ]
 [ 0. 89.78 0. 0. 0. 89.73 0. 72.67 0. 0.
  0. 72.61 0. 0. 0. 0. 0. 0. 0. 0.
  0. 0. 0. 0. 0. ]
 [ 0. 0. 80.59 0. 0. 0. 80.76 0. 65.27 0.
  0. 0. 65.38 0. 0. 0. 0. 0. 0.
  0. 0. 0. 0. 0. ]
 [ 0. 0. 0. 72.44 0. 0. 0. 72.53 0. 72.01
  0. 0. 0. 72.09 0. 0. 0. 0. 0.
  0. 0. 0. 0. 0. ]
 [ 0. 0. 0. 0. 65.15 0. 0. 0. 65.24 0.
  0. 0. 0. 0. 79.94 0. 0. 0. 0.
  0. 0. 0. 0. 0. ]
 [ 0. 0. 0. 0. 0. 89.8 0. 0. 0. 0.
  0. 72.44 0. 0. 0. 72.52 0. 0. 0. 0.
  0. 0. 0. 0. 0. ]
 [ 0. 0. 0. 0. 0. 0. 80.74 0. 0. 0.
  80.68 0. 65.26 0. 0. 0. 65.27 0. 0. 0.
  0. 0. 0. 0. 0. ]
 [ 0. 0. 0. 0. 0. 0. 0. 72.65 0. 0.
  0. 72.54 0. 72.08 0. 0. 0. 72.11 0. 0.
  0. 0. 0. 0. 0. ]
 [ 0. 0. 0. 0. 0. 0. 0. 0. 65.23 0.
  0. 0. 65.3 0. 79.99 0. 0. 0. 80.05 0.
  0. 0. 0. 0. 0. ]
 [ 0. 0. 0. 0. 0. 0. 0. 0. 0. 72.01
  0. 0. 0. 72.05 0. 0. 0. 0. 88.93
  0. 0. 0. 0. 0. ]
 [ 0. 0. 0. 0. 0. 0. 0. 0. 0. 0.
  80.6 0. 0. 0. 0. 0. 65.21 0. 0. 0.
  65.05 0. 0. 0. 0. 0. 0. 0. 0.
  0. 0. 0. 0. 0. ]
 [ 0. 72.61 0. 0. 0. 72.41 0. 71.96 0. 0.
  0. 71.96 0. 0. 0. 0. 0. 0. 0.
  0. 0. 0. 0. 0. ]
 [ 0. 0. 0. 0. 0. 0. 0. 0. 0. 0.
  0. 0. 65.34 0. 0. 0. 65.25 0. 80.02 0.
  0. 0. 79.97 0. 0. 0. 0. 0. 0.
  0. 0. 0. 0. 0. ]
 [ 0. 0. 0. 72.09 0. 0. 0. 72.05 0. 89.
  0. 0. 0. 88.98 0. 0. 0. 0. 0.
  0. 0. 0. 0. 80.02 0. 0. 0. 80.05 0.
  0. 0. 0. 0. 99. ]
 [ 0. 0. 0. 0. 0. 0. 0. 0. 0. 0.
  0. 0. 0. 0. 0. 72.39 0. 0. 0. 0.
  0. 71.89 0. 0. 0. 0. 0. 0. 0. 0.
  0. 0. 0. 0. 0. 0. 65.3 0. 0. 0.
  65.01 0. 79.98 0. 0. 0. ]
 [ 0. 0. 0. 0. 0. 0. 0. 0. 0. 0.
  0. 0. 0. 0. 0. 0. 0. 72.07 0. 0.
  0. 71.96 0. 88.95 0. 0. 0. 0. 0.
  0. 0. 0. 0. 0. 0. 0. 0. 0.
  0. 0. 0. 0. 0. 0. 0. 80.11 0.
  0. 0. 79.98 0. 99. ]
 [ 0. 0. 0. 0. 0. 0. 0. 0. 0. 0.
  0. 0. 0. 0. 0. 0. 0. 0. 88.97
  0. 0. 0. 88.91 99. ]]
```

Episode Zero Qgrid

[illegible]

QGrid

[illegible]

EPISODE 18

QGrid

```
[[ 0. 0. 0. 0. 0. 0. 0. 0. 0. 0.
   0. 0. 0. 0. 0. 0. 0. 0. 0. 0.
   0. 0. 0. 0. 0. ]
 [ 0. 0. 0. 0. 0. 0. 0. 0. 0. 0.
   0. 0. 0. 0. 0. 0. 0. 0. 0. 0.
   0. 0. 0. 0. 0. ]
 [ 0. 0. 0. 0. 0. 0. 0. 0. 0. 0.
   0. 0. 0. 0. 0. 0. 0. 0. 0. 0.
   0. 0. 0. 0. 0. ]
 [ 0. 0. 0. 0. 0. 0. 0. 0. 19.68 0.
   0. 0. 0. 0. 0. 0. 0. 0. 0. 0.
   0. 0. 0. 0. 0. ]
 [ 0. 0. 0. 0. 0. 0. 0. 0. 0. 0.
   0. 0. 0. 0. 0. 0. 0. 0. 0. 0.
   0. 0. 0. 0. 0. ]
 [ 70. 0. 0. 0. 0. 0. 0. 0. 0. 0.
   0. 0. 0. 0. 0. 0. 0. 0. 0. 0.
   0. 0. 0. 0. 0. ]
 [ 0. 0. 0. 0. 0. 0. 0. 29.52 0. 0.
   0. 0. 0. 0. 0. 0. 0. 0. 0. 0.
   0. 0. 0. 0. 0. ]
 [ 0. 0. 0. 0. 0. 0. 0. 0. 0. 0.
   0. 0. 39.37 0. 0. 0. 0. 0. 0. 0.
   0. 0. 0. 0. 0. ]
 [ 0. 0. 0. 0. 0. 0. 0. 0. 0. 0.
   0. 0. 0. 43.74 0. 0. 0. 0. 0. 0.
   0. 0. 0. 0. 0. ]
 [ 0. 0. 0. 0. 0. 0. 0. 0. 0. 0.
   0. 0. 0. 0. 0. 0. 0. 0. 0. 0.
   0. 0. 0. 0. 0. ]
 [ 0. 0. 0. 0. 0. 0. 0. 0. 0. 0.
   0. 0. 0. 0. 0. 0. 0. 0. 0. 0.
   0. 0. 0. 0. 0. ]
 [ 0. 0. 0. 0. 0. 0. 0. 0. 0. 0.
   0. 0. 0. 0. 0. 0. 0. 0. 0. 0.
   0. 0. 0. 0. 0. ]
 [ 0. 0. 0. 0. 0. 0. 0. 0. 0. 0.
   0. 0. 0. 51.03 0. 0. 0. 0. 0. 0.
   0. 0. 0. 0. 0. ]
 [ 0. 0. 0. 0. 0. 0. 0. 0. 0. 0.
   0. 0. 0. 0. 0. 0. 0. 0. 54.8 0.
   0. 0. 0. 0. 0. ]
 [ 0. 0. 0. 0. 0. 0. 0. 0. 0. 0.
   0. 0. 0. 0. 0. 0. 0. 0. 0. 0.
   0. 0. 0. 0. 0. ]
 [ 0. 0. 0. 0. 0. 0. 0. 0. 0. 0.
   0. 0. 0. 0. 0. 0. 0. 0. 0. 0.
   0. 0. 0. 0. 0. ]
 [ 0. 0. 0. 0. 0. 0. 0. 0. 0. 0.
   0. 0. 0. 0. 0. 0. 0. 29.16 0. 0.
   0. 0. 0. 0. 0. ]
 [ 0. 0. 0. 0. 0. 0. 0. 0. 0. 0.
   0. 0. 0. 0. 0. 0. 0. 0. 0. 0.
   0. 0. 32.4 0. 0. ]
 [ 0. 0. 0. 0. 0. 0. 0. 0. 0. 0.
   0. 0. 0. 0. 0. 0. 0. 0. 0. 81.
   0. 0. 0. 0. 0. ]
 [ 0. 0. 0. 0. 0. 0. 0. 0. 0. 0.
   0. 0. 0. 0. 0. 0. 0. 0. 0. 0.
   0. 0. 0. 100. ]
 [ 0. 0. 0. 0. 0. 0. 0. 0. 0. 0.
   0. 0. 0. 0. 0. 0. 0. 0. 0. 0.
   0. 7.29 0. 0. 0. ]
 [ 0. 0. 0. 0. 0. 0. 0. 0. 0. 0.
   0. 0. 0. 0. 0. 0. 0. 0. 0. 0.
   0. 0. 16.2 0. 0. ]
 [ 0. 0. 0. 0. 0. 0. 0. 0. 0. 0.
   0. 0. 0. 0. 0. 0. 0. 0. 0. 0.
   0. 0. 0. 45. 0. ]
 [ 0. 0. 0. 0. 0. 0. 0. 0. 0. 0.
   0. 0. 0. 0. 0. 0. 0. 0. 0. 0.
   0. 0. 0. 0. 90. ]
 [ 0. 0. 0. 0. 0. 0. 0. 0. 0. 0.
   0. 0. 0. 0. 0. 0. 0. 0. 0. 0.
   0. 0. 0. 0. 0. ]]
```

EPISODE 189

QGrid

```
[[ 79.39  0.    0.    0.    0.    0.    0.    0.    0.    0.
   0.    0.    0.    0.    0.    0.    0.    0.    0.    0.
   0.    0.    0.    0.    0.    0.    0.    0.    0.    0.
  [  0.    0.    0.    0.    0.    0.    26.81  0.    0.    0.
   0.    0.    0.    0.    0.    0.    0.    0.    0.    0.
   0.    0.    0.    0.    0.    0.    0.    0.    0.    0.
  [  0.    0.    0.    0.    0.    0.    0.    42.44  0.    0.
   0.    0.    0.    0.    0.    0.    0.    0.    0.    0.
   0.    0.    0.    0.    0.    0.    0.    0.    0.    0.
  [  0.    0.    0.    0.    0.    0.    0.    0.    52.66  0.
   0.    0.    0.    0.    0.    0.    0.    0.    0.    0.
   0.    0.    0.    0.    0.    0.    0.    0.    0.    0.
  [  0.    0.    0.    29.81  0.    0.    0.    0.    0.    0.
   0.    0.    0.    0.    0.    0.    0.    0.    0.    0.
   0.    0.    0.    0.    0.    0.    0.    0.    0.    0.
  [100.    0.    0.    0.    0.    0.    0.    0.    0.    0.
   0.    0.    0.    0.    0.    0.    0.    0.    0.    0.
   0.    0.    0.    0.    0.    0.    0.    0.    0.    0.
  [  0.    0.    0.    0.    0.    0.    0.    46.34  0.    0.
   0.    0.    0.    0.    0.    0.    0.    0.    0.    0.
   0.    0.    0.    0.    0.    0.    0.    0.    0.    0.
  [  0.    0.    0.    0.    0.    0.    0.    0.    0.    0.
   0.    0.    56.37  0.    0.    0.    0.    0.    0.    0.
   0.    0.    0.    0.    0.    0.    0.    0.    0.    0.
  [  0.    0.    0.    0.    0.    0.    0.    0.    0.    0.
   0.    0.    0.    0.    0.    0.    0.    0.    0.    0.
   0.    0.    0.    0.    0.    0.    0.    0.    0.    0.
  [  0.    0.    0.    0.    0.    0.    0.    0.    47.21  0.
   0.    0.    0.    0.    0.    0.    0.    0.    0.    0.
   0.    0.    0.    0.    0.    0.    0.    0.    0.    0.
  [  0.    0.    0.    0.    0.    0.    81.98  0.    0.    0.
   0.    0.    0.    0.    0.    0.    0.    0.    0.    0.
   0.    0.    0.    0.    0.    0.    0.    0.    0.    0.
  [  0.    0.    0.    0.    0.    0.    0.    28.91  0.    0.
   0.    0.    0.    0.    0.    0.    0.    0.    0.    0.
   0.    0.    0.    0.    0.    0.    0.    0.    0.    0.
  [  0.    0.    0.    0.    0.    0.    0.    0.    0.    0.
   0.    0.    0.    64.79  0.    0.    0.    0.    0.    0.
   0.    0.    0.    0.    0.    0.    0.    0.    0.    0.
  [  0.    0.    0.    0.    0.    0.    0.    0.    0.    0.
   0.    0.    0.    0.    0.    0.    0.    0.    74.87  0.
   0.    0.    0.    0.    0.    0.    0.    0.    0.    0.
  [  0.    0.    0.    0.    0.    0.    0.    0.    0.    32.38
   0.    0.    0.    0.    0.    0.    0.    0.    0.    0.
   0.    0.    0.    0.    0.    0.    0.    0.    0.    0.
  [  0.    0.    0.    0.    0.    0.    0.    0.    0.    0.
   0.    0.    0.    0.    0.    0.    46.95  0.    0.    0.
   0.    0.    0.    0.    0.    0.    0.    0.    0.    0.
  [  0.    0.    0.    0.    0.    0.    0.    0.    0.    0.
   0.    0.    0.    0.    0.    0.    0.    59.83  0.    0.
   0.    0.    0.    0.    0.    0.    0.    0.    0.    0.
  [  0.    0.    0.    0.    0.    0.    0.    0.    0.    0.
   0.    0.    0.    0.    0.    0.    0.    0.    0.    0.
   0.    0.    69.17  0.    0.    0.    0.    0.    0.    0.
  [  0.    0.    0.    0.    0.    0.    0.    0.    0.    0.
   0.    0.    0.    0.    0.    0.    0.    0.    0.    83.37
   0.    0.    0.    0.    0.    0.    0.    0.    0.    0.
  [  0.    0.    0.    0.    0.    0.    0.    0.    0.    0.
   0.    0.    0.    0.    0.    0.    0.    0.    0.    0.
   0.    0.    0.    0.    94.68  0.    0.    0.    0.    0.
  [  0.    0.    0.    0.    0.    0.    0.    0.    0.    0.
   0.    0.    0.    0.    0.    0.    0.    0.    0.    0.
   0.    43.95  0.    0.    0.    0.    0.    0.    0.    0.
  [  0.    0.    0.    0.    0.    0.    0.    0.    0.    0.
   0.    0.    0.    0.    0.    0.    0.    0.    0.    0.
   0.    0.    55.65  0.    0.    0.    0.    0.    0.    0.
  [  0.    0.    0.    0.    0.    0.    0.    0.    0.    0.
   0.    0.    0.    0.    0.    0.    0.    0.    0.    0.
   0.    0.    0.    82.73  0.    0.    0.    0.    0.    0.
  [  0.    0.    0.    0.    0.    0.    0.    0.    0.    0.
   0.    0.    0.    0.    0.    0.    0.    0.    0.    0.
   0.    0.    0.    0.    95.38  0.    0.    0.    0.    0.
  [  0.    0.    0.    0.    0.    0.    0.    0.    0.    0.
   0.    0.    0.    0.    0.    0.    0.    0.    0.    0.
   0.    0.    0.    68.3  0.    0.    0.    0.    0.    0.]]
```


Episode Zero Qgrid

0.))

Reward Matrix

[illegible]

EPISODE 10

qGrid

```
[[ 72.94 0. 0. 0. 0. 0. 0. 0. 0. 0.
  0. 0. 0. 0. 0. 0. 0. 0. 0. 0.
  0. 0. 0. 0. 0. 0. ]
 [ 80.45 0. 37.23 0. 0. 0. 44.78 0. 0. 0.
  0. 0. 0. 0. 0. 0. 0. 0. 0. 0.
  0. 0. 0. 0. 0. 0. ]
 [ 0. 72.4 0. 41.89 0. 0. 0. 33.51 0. 0.
  0. 0. 0. 0. 0. 0. 0. 0. 0. 0.
  0. 0. 0. 0. 0. 0. ]
 [ 0. 0. 46.55 0. 30.16 0. 0. 0. 30.16 0.
  0. 0. 0. 0. 0. 0. 0. 0. 0.
  0. 0. 0. 0. 0. 0. ]
 [ 0. 0. 0. 33.51 0. 0. 0. 0. 0. 27.15
  0. 0. 0. 0. 0. 0. 0. 0. 0.
  0. 0. 0. 0. 0. 0. ]
 [100. 0. 0. 0. 0. 0. 52.32 0. 0. 0.
  55.86 0. 0. 0. 0. 0. 0. 0. 0. 0.
  0. 0. 0. 0. 0. 0. ]
 [ 0. 41.37 0. 0. 0. 51.72 0. 33.51 0. 0.
  0. 50.27 0. 0. 0. 0. 0. 0. 0.
  0. 0. 0. 0. 0. 0. ]
 [ 0. 0. 37.23 0. 0. 0. 37.23 0. 30.16 0.
  0. 0. 30.16 0. 0. 0. 0. 0. 0.
  0. 0. 0. 0. 0. 0. ]
 [ 0. 0. 0. 41.89 0. 0. 0. 33.51 0. 27.15
  0. 0. 0. 30.24 0. 0. 0. 0. 0. 0.
  0. 0. 0. 0. 0. 0. ]
 [ 0. 0. 0. 0. 30.16 0. 0. 0. 32.94 0.
  0. 0. 0. 0. 24.43 0. 0. 0. 0. 0.
  0. 0. 0. 0. 0. 0. ]
 [ 0. 0. 0. 0. 0. 79.66 0. 0. 0. 0.
  0. 50.27 0. 0. 0. 56.15 0. 0. 0. 0.
  0. 0. 0. 0. 0. 0. ]
 [ 0. 0. 0. 0. 0. 0. 37.23 0. 0. 0.
  62.38 0. 30.16 0. 0. 0. 30.16 0. 0. 0.
  0. 0. 0. 0. 0. 0. ]
 [ 0. 0. 0. 0. 0. 0. 0. 33.51 0. 0.
  0. 33.51 0. 27.15 0. 0. 0. 27.15 0. 0.
  0. 0. 0. 0. 0. 0. ]
 [ 0. 0. 0. 0. 0. 0. 0. 0. 30.16 0.
  0. 0. 7.54 0. 24.43 0. 0. 0. 26.7 0.
  0. 0. 0. 0. 0. 0. ]
 [ 0. 0. 0. 0. 0. 0. 0. 0. 0. 27.15
  0. 0. 0. 21.99 0. 0. 0. 0. 21.99
  0. 0. 0. 0. 0. 0. ]
 [ 0. 0. 0. 0. 0. 0. 0. 0. 0. 0.
  62.38 0. 0. 0. 0. 0. 37.7 0. 0. 0.
  0. 0. 0. 0. 0. 0. ]
 [ 0. 0. 0. 0. 0. 0. 0. 0. 0. 0.
  0. 33.51 0. 0. 0. 47.77 0. 33.93 0. 0.
  0. 33.93 0. 0. 0. 0. 0. 0. 0.
  0. 0. 0. 0. 0. 0. 0. 0. 0.
  0. 0. 30.16 0. 0. 0. 37.7 0. 13.88 0.
  0. 0. 28.72 0. 0. 0. ]
 [ 0. 0. 0. 0. 0. 0. 0. 0. 0. 0.
  0. 0. 0. 27.15 0. 0. 0. 19.27 0. 21.99
  0. 0. 0. 20.87 0. 0. 0. 0. 0.
  0. 0. 0. 0. 0. 0. 0. 0. 0.
  0. 0. 0. 0. 24.43 0. 0. 0. 0. 0.
  0. 0. 0. 0. 16.96]
 [ 0. 0. 0. 0. 0. 0. 0. 0. 0. 0.
  0. 0. 0. 0. 0. 41.89 0. 0. 0. 0.
  0. 0. 0. 0. 0. 0. 0. 0. 0.
  0. 0. 0. 0. 0. 0. 0. 0. 0.
  0. 0. 0. 0. 0. 0. 0. 0. 0.
  0. 0. 0. 0. 0. 0. 37.7 0. 0. 0.
  30.16 0. 30.54 0. 0. 0. ]
 [ 0. 0. 0. 0. 0. 0. 0. 0. 0. 0.
  0. 0. 0. 0. 0. 0. 0. 31. 0. 0.
  0. 33.93 0. 23.09 0. 0. 0. 0. 0. 0.
  0. 0. 0. 0. 0. 0. 0. 0. 0.
  0. 0. 28.72 0. 38.17]
 [ 0. 0. 0. 0. 0. 0. 0. 0. 0. 0.
  0. 0. 0. 0. 0. 0. 0. 0. 0. 0.
  0. 0. 0. 0. 0. 0. 0. 0. 0. 0.
  0. 0. 0. 0. 0. 0. ]]
```

EPISODE 2047

QGrid

```
[[ 98.81 87.05 0. 0. 0. 84.6 0. 0. 0. 0.
  0. 0. 0. 0. 0. 0. 0. 0. 0. 0.
  0. 0. 0. 0. 0. ]
 [ 99.95 0. 80.74 0. 0. 0. 80.78 0. 0. 0.
  0. 0. 0. 0. 0. 0. 0. 0. 0. 0.
  0. 0. 0. 0. 0. ]
 [ 0. 89.88 0. 72.53 0. 0. 0. 72.61 0. 0.
  0. 0. 0. 0. 0. 0. 0. 0. 0. 0.
  0. 0. 0. 0. 0. ]
 [ 0. 0. 80.81 0. 65.21 0. 0. 0. 65.25 0.
  0. 0. 0. 0. 0. 0. 0. 0. 0. 0.
  0. 0. 0. 0. 0. ]
 [ 0. 0. 0. 72.6 0. 0. 0. 0. 0. 69.93
  0. 0. 0. 0. 0. 0. 0. 0. 0. 0.
  0. 0. 0. 0. 0. ]
 [100. 0. 0. 0. 0. 0. 80.72 0. 0. 0.
  80.76 0. 0. 0. 0. 0. 0. 0. 0. 0.
  0. 0. 0. 0. 0. ]
 [ 0. 89.73 0. 0. 0. 89.82 0. 72.56 0. 0.
  0. 72.51 0. 0. 0. 0. 0. 0. 0. 0.
  0. 0. 0. 0. 0. ]
 [ 0. 0. 80.67 0. 0. 0. 80.61 0. 65.13 0.
  0. 0. 65.17 0. 0. 0. 0. 0. 0. 0.
  0. 0. 0. 0. 0. ]
 [ 0. 0. 0. 72.5 0. 0. 0. 72. 0. 69.69
  0. 0. 0. 69.5 0. 0. 0. 0. 0. 0.
  0. 0. 0. 0. 0. ]
 [ 0. 0. 0. 0. 64.85 0. 0. 0. 64.85 0.
  0. 0. 0. 0. 78.12 0. 0. 0. 0. 0.
  0. 0. 0. 0. 0. ]
 [ 0. 0. 0. 0. 0. 89.92 0. 0. 0. 0.
  0. 72.43 0. 0. 0. 72.47 0. 0. 0. 0.
  0. 0. 0. 0. 0. ]
 [ 0. 0. 0. 0. 0. 0. 80.75 0. 0. 0.
  80.48 0. 65.2 0. 0. 0. 65.12 0. 0. 0.
  0. 0. 0. 0. 0. ]
 [ 0. 0. 0. 0. 0. 0. 0. 72.44 0. 0.
  0. 72.25 0. 64.54 0. 0. 0. 69.35 0. 0.
  0. 0. 0. 0. 0. ]
 [ 0. 0. 0. 0. 0. 0. 0. 0. 64.72 0.
  0. 0. 64.99 0. 76.58 0. 0. 0. 76.73 0.
  0. 0. 0. 0. 0. ]
 [ 0. 0. 0. 0. 0. 0. 0. 0. 0. 70.18
  0. 0. 0. 69.86 0. 0. 0. 0. 0. 86.93
  0. 0. 0. 0. 0. ]
 [ 0. 0. 0. 0. 0. 0. 0. 0. 0. 0.
  80.81 0. 0. 0. 0. 0. 65.02 0. 0. 0.
  65.02 0. 0. 0. 0. 0. ]
 [ 0. 0. 0. 0. 0. 0. 0. 0. 0. 0.
  0. 72.49 0. 0. 0. 71.55 0. 69.45 0. 0.
  0. 68.12 0. 0. 0. ]
 [ 0. 0. 0. 0. 0. 0. 0. 0. 0. 0.
  0. 0. 64.93 0. 0. 0. 64.79 0. 71.34 0.
  0. 0. 77.87 0. 0. ]
 [ 0. 0. 0. 0. 0. 0. 0. 0. 0. 0.
  0. 0. 0. 70.1 0. 0. 0. 69.73 0. 86.75
  0. 0. 0. 85.68 0. ]
 [ 0. 0. 0. 0. 0. 0. 0. 0. 0. 0.
  0. 0. 0. 0. 77.91 0. 0. 0. 78.02 0.
  0. 0. 0. 0. 96.79]
 [ 0. 0. 0. 0. 0. 0. 0. 0. 0. 0.
  0. 0. 0. 0. 0. 72.56 0. 0. 0. 0.
  0. 69.42 0. 0. 0. ]
 [ 0. 0. 0. 0. 0. 0. 0. 0. 0. 0.
  0. 0. 0. 0. 0. 0. 64.83 0. 0. 0.
  64.26 0. 78.13 0. 0. ]
 [ 0. 0. 0. 0. 0. 0. 0. 0. 0. 0.
  0. 0. 0. 0. 0. 0. 0. 69.95 0. 0.
  0. 70.01 0. 87.05 0. ]
 [ 0. 0. 0. 0. 0. 0. 0. 0. 0. 0.
  0. 0. 0. 0. 0. 0. 0. 0. 78.04 0.
  0. 0. 77.99 0. 96.87]
 [ 0. 0. 0. 0. 0. 0. 0. 0. 0. 0.
  0. 0. 0. 0. 0. 0. 0. 0. 0. 83.94
  0. 0. 0. 84.64 95. ]]
```

FOR PART SIX, SEE partsix.png