# **Team - 46**

## 20161093 20161094

Policy changes occur in iterations :: -

- Iteration 2
- Iteration 3
- Iteration 4
- Iteration 7

\_\_\_\_\_

#### Iteration - 1

```
0.1 N = -13.8 E = -9.2 W = -46.0 S = -13.8
```

$$0.2 \quad N = -9.2 \quad E = -9.2 \quad W = -9.2 \quad S = -9.2$$

03 
$$N = -9.2 E = -9.2 W = -9.2 S = -9.2$$

10 
$$N = -46.0 E = -12.88 W = -12.88 S = -1.84$$

11 
$$N = -9.2 E = -9.2 W = -9.2 S = -9.2$$

13 
$$N = -9.2 E = -9.2 W = -9.2 S = -9.2$$

$$2.0 N = -8.28 E = -9.2 W = -1.84 S = -8.28$$

$$2.1 N = -8.28 E = -10.12 W = -2.76 S = -15.64$$

$$22 N = -9.2 E = -9.2 W = -9.2 S = -9.2$$

$$2.3 \quad N = -9.2 \quad E = -4.6 \quad W = -4.6 \quad S = 27.6$$

$$3.0 \text{ N} = -2.76 \text{ E} = -15.64 \text{ W} = -8.28 \text{ S} = -10.12$$

31 
$$N = -9.2 E = -10.12 W = -10.12 S = -16.56$$

$$3.2 \quad N = -5.52 \quad E = 27.6 \quad W = -16.56 \quad S = -5.52$$

#### Board

 -46.0
 -9.2
 -9.2
 -9.2

 -1.84
 -9.2
 0.0
 -9.2

 -1.84
 -2.76
 -9.2
 27.6

 -2.76
 -9.2
 27.6
 46.0

## **POLICY**

-46.0	EAST	NORTH	NORTH
SOUTH	NORTH	W	NORTH
WEST	WEST	NORTH	SOUTH
NORTH	NORTH	EAST	46.0

First policy is produced after 1st iteration. This will be inaccurate as less information is transferred.

#### Iteration - 2

```
0.1 N = -22.08 E = -18.4 W = -47.84 S = -22.08
```

- $0.2 \quad N = -18.4 \quad E = -18.4 \quad W = -18.4 \quad S = -18.4$
- 03 N = -18.4 E = -18.4 W = -18.4 S = -18.4
- 1.0 N = -47.104 E = -20.884 W = -14.996 S = -8.096
- 11 N = -17.664 E = -17.756 W = -11.868 S = -12.512
- 13 N = -18.4 E = -14.72 W = -14.72 S = 11.04
- 2.0 N = -10.672 E = -11.868 W = -7.452 S = -11.408
- 2.1 N = -17.204 E = -18.86 W = -9.292 S = -20.884
- 22 N = -14.076 E = 14.72 W = -9.568 S = 15.364
- $2.3 \quad N = -14.72 \quad E = 16.56 \quad W = -12.88 \quad S = 29.44$
- 3.0 N = -8.648 E = -20.24 W = -11.408 S = -13.064
- 31 N = -8.924 E = 11.224 W = -13.064 S = -17.756
- 3.2 N = -13.34 E = 29.44 W = -18.4 S = 16.1

#### Board

-46.0	-18.4	-18.4	-18.4
-8.096	-11.868	0.0	11.04
-7.452	-9.292	15.364	29.44
-8.648	11.224	29.44	46.0

#### **POLICY**

-46.0	EAST	NORTH	NORTH
SOUTH	WEST	W	SOUTH
WEST	WEST	SOUTH	SOUTH
NORTH	EAST	EAST	46.0

Policy considerably changes after this iteration as more information is now circulated. The maximum possible utilities change depending on the changes in the previous iteration and so policy change occurs at many places.

Eg: At (3,1) due to flow of value from goal state to all the other states the preffered action changes from NORTH to EAST which would take us quickly to the goal state.

#### Iteration - 3

```
0 1 N = -30.36 E = -26.9468 W = -49.0268 S = -25.1344
```

- 0 2 N = -27.6 E = -27.6 W = -27.6 S = -27.6
- 03 N = -27.6 E = -24.656 W = -24.656 S = -4.048
- 10 N = -47.9964 E = -23.5796 W = -20.562 S = -13.478
- 11 N = -25.9164 E = -21.4636 W = -18.446 S = -18.63
- 13 N = -21.712 E = 0.736 W = 0.736 S = 16.56
- 2.0 N = -16.8912 E = -18.308 W = -13.156 S = -17.3328
- 2.1 N = -17.4432 E = 2.5668 W = -12.006 S = -2.6496
- 2.2 N = 5.106 E = 18.8324 W = -12.1532 S = 16.3668
- $2.3 \quad N = 4.1124 \quad E = 20.056 \quad W = 8.7952 \quad S = 32.0804$
- 3.0 N = -11.684 E = -5.0508 W = -17.2684 S = -16.3208
- 31 N = -14.5544 E = 14.0852 W = -16.3852 S = -1.8216
- 3.2 N = 8.3536 E = 32.0804 W = 0.5796 S = 19.6144

#### Board

-46.0	-25.1344	-27.6	-4.048
-13.478	-18.446	0.0	16.56
-13.156	2.5668	18.8324	32.0804
-5.0508	14.0852	32.0804	46.0

## **POLICY**

-46.0	SOUTH	NORTH	SOUTH
SOUTH	WEST	W	SOUTH
WEST	EAST	EAST	SOUTH
EAST	EAST	EAST	46.0

Policy changes are still considerable.

Eg: At (3,0) due to flow of value from goal state to all the other states the preffered action changes from NORTH to EAST which would take us quickly to the goal state.

#### Iteration - 4

- 0.1 N = -36.66752 E = -35.63804 W = -50.35804 S = -31.3168
- 0.2 N = -34.19824 E = -17.9584 W = -34.82752 S = -34.19824
- 03 N = -15.6032 E = -11.1872 W = -30.0288 S = 0.8832
- 10 N = -49.1924 E = -29.4124 W = -25.438 S = -19.2372
- 11 N = -32.49992 E = -26.21356 W = -22.23916 S = -10.33896
- 13 N = -9.1264 E = 6.85124 W = 6.85124 S = 19.77632
- 2.0 N = -20.58132 E = -8.99944 W = -17.89768 S = -13.83956
- 2.1 N = -22.92916 E = 4.96984 W = -16.94088 S = -0.5842
- 2 2 N = 9.33064 E = 21.5556 W = -2.05528 S = 19.92904
- 23 N = 9.13928 E = 22.72032 W = 12.12192 S = 32.69128
- 30 N = -15.60136 E = -2.97252 W = -14.60132 S = -12.7972
- $3.1 \quad N = -4.4436 \quad E = 17.66952 \quad W = -12.03544 \quad S = 1.09112$
- 32 N = 11.41444 E = 32.69128 W = 3.47944 S = 22.01284

#### Board

-46.0	-31.3168	-17.9584	0.8832
-19.2372	-10.33896	0.0	19.77632
-8.99944	4.96984	21.5556	32.69128
-2.97252	17.66952	32.69128	46.0

## **POLICY**

-46.0	SOUTH	EAST	SOUTH
SOUTH	SOUTH	W	SOUTH
EAST	EAST	EAST	SOUTH
EAST	EAST	EAST	46.0

Policy changes are still significant.

Eg: At (0, 2) due to flow of value from goal state to all the other states the preffered action changes from NORTH to EAST which would take us to the goal state.

#### Iteration - 5

- 0.1 N = -40.64928 E = -27.732296 W = -50.165576 S = -23.867008
- 0 2 N = -26.61008 E = -12.08512 W = -37.84512 S = -26.61008
- 03 N = -10.20096 E = -6.427488 W = -21.500768 S = 4.913536
- 10 N = -48.957616 E = -22.511112 W = -29.629704 S = -15.677168
- 11 N = -37.211056 E = -20.105864 W = -27.224456 S = -8.181744
- 13 N = -4.538176 E = 9.978504 W = 9.978504 S = 20.908288
- 2.0 N = -24.53272 E = -7.4451 W = -14.940524 S = -11.520976
- 2.1 N = -15.755552 E = 8.317536 W = -12.446496 S = 2.971232
- $2.2 \quad N = 11.810592 \quad E = 22.377712 \quad W = 0.20056 \quad S = 20.719136$
- 23 N = 12.045744 E = 23.530656 W = 14.622112 S = 33.024688
- 3.0 N = -11.709852 E = 0.51842 W = -12.315212 S = -10.568316
- $3.1 \quad N = -2.252252 \quad E = 18.75696 \quad W = -9.77408 \quad S = 4.227492$
- 3.2 N = 13.951432 E = 33.024688 W = 6.680304 S = 22.859976

#### Board

-46.0	-23.867008	-12.08512	4.913536
-15.677168	-8.181744	0.0	20.908288
-7.4451	8.317536	22.377712	33.024688
0.51842	18.75696	33.024688	46.0

## **POLICY**

-46.0	SOUTH	EAST	SOUTH
SOUTH	SOUTH	W	SOUTH
EAST	EAST	EAST	SOUTH
EAST	EAST	EAST	46.0

No policy changes after this iteration.

#### Iteration - 6

- 01 N = -34.1021184 E = -22.0729712 W = -49.2048752 S = -21.5539072
- $0.2 \quad N = -20.7634432 \quad E = -7.6861952 \quad W = -30.7106304 \quad S = -20.7634432$
- 03 N = -5.9863296 E = -2.6869888 W = -16.2859136 S = 6.809472
- 10 N = -48.3858912 E = -20.6299052 W = -26.6262444 S = -13.8619712
- 11 N = -30.6794976 E = -17.3003424 W = -23.2966816 S = -4.9318624
- 13 N = -1.0875136 E = 11.3204528 W = 11.3204528 S = 21.401408
- 2.0 N = -21.1944908 E = -4.061846 W = -12.9919548 S = -8.2380204
- $2.1 \quad N = -13.792134 \quad E = 9.2996912 \quad W = -10.8785584 \quad S = 4.0788292$
- $2.2 \quad N = 12.836392 \quad E = 22.7599904 \quad W = 2.9942688 \quad S = 21.3539728$
- 23 N = 13.0668704 E = 23.9105792 W = 15.3929984 S = 33.14024
- 3.0 N = -10.008542 E = 1.8929 W = -9.017932 S = -7.317726
- $3.1 \quad N = 0.8083396 \quad E = 19.4672 \quad W = -6.5378144 \quad S = 5.4798788$
- 3 2 N = 14.7178656 E = 33.14024 W = 7.665808 S = 23.2354464

#### **Board**

-46.0	-21.5539072	-7.6861952	6.809472
-13.8619712	-4.9318624	0.0	21.401408
-4.061846	9.2996912	22.7599904	33.14024
1.8929	19.4672	33.14024	46.0

## **POLICY**

-46.0	SOUTH	EAST	SOUTH
SOUTH	SOUTH	W	SOUTH
EAST	EAST	EAST	SOUTH
EAST	EAST	EAST	46.0

No policy changes after this iteration.

#### Iteration - 7

- 01 N = -31.81174528 E = -17.99753312 W = -48.64857696 S = -18.51410944
- 0.2 N = -16.82339968 E = -5.28966144 W = -27.9803648 S = -16.82339968
- 03 N = -3.84009472 E = -0.9313344 W = -12.52786816 S = 7.83345408
- 10 N = -47.87938336 E = -17.69167452 W = -24.83576156 S = -10.64886016
- 11 N = -28.32250912 E = -14.37091152 W = -21.51499856 S = -3.6396304
- 13 N = 0.5278592 E = 11.9160976 W = 11.9160976 S = 21.5924736
- 2.0 N = -19.30579244 E = -2.95715416 W = -9.96638392 S = -6.70189548
- 2.1 N = -10.81567548 E = 10.00152608 W = -7.77594304 S = 5.02357444
- 2 2 N = 13.25198544 E = 22.90221504 W = 3.829776 S = 21.55618512
- 23 N = 13.51114944 E = 24.0523328 W = 15.74813312 S = 33.19002304
- 3.0 N = -7.0934668 E = 2.9368654 W = -7.4425746 S = -6.00967
- 3.1 N = 1.74306696 E = 19.72888112 W = -5.26899088 S = 6.197074
- 3.2 N = 15.09471232 E = 33.19002304 W = 8.28378304 S = 23.398912

## Board

-46.0	-17.99753312	-5.28966144	7.83345408
-10.64886016	-3.6396304	0.0	21.5924736
-2.95715416	10.00152608	22.90221504	33.19002304
2.9368654	19.72888112	33.19002304	46.0

### **POLICY**

-46.0	EAST	EAST	SOUTH
SOUTH	SOUTH	W	SOUTH
EAST	EAST	EAST	SOUTH
EAST	EAST	EAST	46.0

Policy changes at (0,1) from SOUTH to EAST because it reduces the probability of going to the bad end state to zero and moreover provides a higher utility state towards the right of current state.

#### Iteration - 8

- 01 N = -28.72699264 E = -15.595445504 W = -48.163716352 S = -17.240670464
- $0.2 \quad N = -14.448137056 \quad E = -3.991169024 \quad W = -24.655958784 \quad S = -14.448137056$
- 03 N = -2.678857472 E = 0.00935603200002 W = -10.489136384 S = 8.328358144
- 10 N = -47.428849056 E = -16.547419736 W = -22.154803544 S = -9.314572384
- 11 N = -25.026875552 E = -12.911305024 W = -18.518688832 S = -2.627628192
- 13 N = 1.385257984 E = 12.176326592 W = 12.176326592 S = 21.670513152
- 2.0 N = -16.554650936 E = -1.969978612 W = -8.656922804 S = -5.686070488
- 2.1 N = -9.657198232 E = 10.270697104 W = -6.736798256 S = 5.357610984
- 22 N = 13.440926944 E = 22.96124224 W = 4.410444672 S = 21.671173344
- $2.3 \quad N = 13.683202688 \quad E = 24.111265792 \quad W = 15.881019392 \quad S = 33.209223808$
- 3.0 N = -6.079148676 E = 3.36107602 W = -6.392536556 S = -5.043933028
- 31 N = 2.413909708 E = 19.865059152 W = -4.33746696 S = 6.51579374
- $3.2 \quad N = 15.234660144 \quad E = 33.209223808 \quad W = 8.512328704 \quad S = 23.464906544$

#### **Board**

-46.0	-15.595445504	-3.991169024	8.328358144
-9.314572384	-2.627628192	0.0	21.670513152
-1.969978612	10.270697104	22.96124224	33.209223808
3.36107602	19.865059152	33.209223808	46.0

#### **POLICY**

-46.0	EAST	EAST	SOUTH
SOUTH	SOUTH	W	SOUTH
EAST	EAST	EAST	SOUTH
EAST	EAST	EAST	46.0

No policy changes after this iteration.

#### Iteration - 9

- 01 N = -26.6754733056 E = -14.2152425888 W = -47.8223073696 S = -16.301219456
- 0.2 N = -13.1196439552 E = -3.3355472896 W = -22.474590208 S = -13.1196439552
- 03 N = -2.1035945728 E = 0.4625736448 W = -9.3930480896 S = 8.5701294336
- 10 N = -47.1942200576 E = -15.6391004148 W = -20.9886557684 S = -8.2902029472
- 11 N = -22.8705764608 E = -11.8345773936 W = -17.1841327472 S = -2.1776623744
- 13 N = 1.7967891456 E = 12.2901687168 W = 12.2901687168 S = 21.7014816768
- $2.0 \quad N = -15.361586058 \quad E = -1.5787919532 \quad W = -7.691332526 \quad S = -5.2210673348$
- $2.1 \quad N = -8.7429761908 \quad E = 10.432736888 \quad W = -5.8322397936 \quad S = 5.5711736844$
- 22 N = 13.5169858832 E = 22.9844256512 W = 4.633604288 S = 21.7153711376
- $2.3 \quad N = 13.7534571264 \quad E = 24.1344303616 \quad W = 15.9360451072 \quad S = 33.2170466048$
- 3.0 N = -5.2333693724 E = 3.6111570624 W = -5.9120294432 S = -4.6485256668
- $3.1 \quad N = 2.673587666 \quad E = 19.920954672 \quad W = -3.9575635584 \quad S = 6.6690773044$
- 3 2 N = 15.2954997072 E = 33.2170466048 W = 8.6290939264 S = 23.4938849616

#### **Board**

-46.0	-14.2152425888	-3.3355472896	8.5701294336
-8.2902029472	-2.1776623744	0.0	21.7014816768
-1.5787919532	10.432736888	22.9844256512	33.2170466048
3.6111570624	19.920954672	33.2170466048	46.0

#### **POLICY**

-46.0	EAST	EAST	SOUTH
SOUTH	SOUTH	W	SOUTH
EAST	EAST	EAST	SOUTH
EAST	EAST	EAST	46.0

No policy changes after this iteration.

#### Iteration - 10

- 0 1 N = -25.5057488 E = -13.507728328 W = -47.6392904963 S = -15.8756846285
- $0.2 \quad N = -12.4329491472 \quad E = -3.01100591104 \quad W = -21.239303529 \quad S = -12.4329491472$
- $0.3 \quad N = -1.82043823872 \quad E = 0.68326465792 \quad W = -8.84127672064 \quad S = 8.68464355584$
- 10 N = -47.0467865322 E = -15.2400090948 W = -20.1300415531 S = -7.82982009472
- 11 N = -21.6189806032 E = -11.3203804696 W = -16.2104129278 S = -1.90059702176
- 13 N = 1.99639988224 E = 12.3399029453 W = 12.3399029453 S = 21.7139336192
- $2.0 \quad N = -14.4867678643 \quad E = -1.32171507808 \quad W = -7.25093815104 \quad S = -4.9656798566$
- $2.1 \quad N = -8.34156652972 \quad E = 10.5018697507 \quad W = -5.4687043328 \quad S = 5.6573271074$
- 22 N = 13.5525188702 E = 22.9937845094 W = 4.766336736 S = 21.7386156331
- 2.3 N = 13.781332567 E = 24.1437854515 W = 15.9576886886 S = 33.2201472256
- 3.0 N = -4.88982238912 E = 3.72000024852 W = -5.64783783916 S = -4.41786317664
- 31 N = 2.82900987712 E = 19.9490064398 W = -3.73570519408 S = 6.73958410432
- 3 2 N = 15.3196359882 E = 33.2201472256 W = 8.6769109632 S = 23.505732751

## **Board**

-46.0	-13.507728328	-3.01100591104	8.68464355584
-7.82982009472	-1.90059702176	0.0	21.7139336192
-1.32171507808	10.5018697507	22.9937845094	33.2201472256
3.72000024852	19.9490064398	33.2201472256	46.0

#### **POLICY**

-46.0	EAST	EAST	SOUTH
SOUTH	SOUTH	W	SOUTH
EAST	EAST	EAST	SOUTH
EAST	EAST	EAST	46.0

No policy changes after this iteration.

#### Iteration - 11

- 01 N = -24.9072832535 E = -13.1496372638 W = -47.540832535 S = -15.6215782085
- $0.2 \quad N = -12.091113206 \quad E = -2.85448633754 \quad W = -20.6083838446 \quad S = -12.091113206$
- 0.3 N = -1.68492139085 E = 0.787572562176 W = -8.56894701133 S = 8.73851065984
- 10 N = -46.9730417116 E = -14.9926491252 W = -19.7360275836 S = -7.55041377411
- 11 N = -20.979224374 E = -11.0210634751 W = -15.7644419335 S = -1.77154591107
- 13 N = 2.09050156851 E = 12.3616259735 W = 12.3616259735 S = 21.7189045043
- 2.0 N = -14.0858406085 E = -1.20948618404 W = -6.98835404708 S = -4.84598433392
- $2.1 \quad N = -8.09327067427 \quad E = 10.5398685494 \quad W = -5.23253112066 \quad S = 5.70641209501$
- $2.2 \quad N = 13.5672293052 \quad E = 22.997510954 \quad W = 4.82288897408 \quad S = 21.7483194781$
- $2.3 \quad N = 13.7925400689 \quad E = 24.1475111424 \quad W = 15.9664209695 \quad S = 33.2213931735$
- $3.0 \quad N = -4.67047139363 \quad E = 3.77903366892 \quad W = -5.52417128414 \quad S = -4.31709913235$
- $3.1 \quad N = 2.89551054799 \quad E = 19.9612053995 \quad W = -3.63891218213 \quad S = 6.77321989928$
- $3.2 \quad N = 15.3299282515 \quad E = 33.2213931735 \quad W = 8.70059832538 \quad S = 23.5110184245$

#### Board

-46.0	-13.1496372638	-2.85448633754	8.73851065984
-7.55041377411	-1.77154591107	0.0	21.7189045043
-1.20948618404	10.5398685494	22.997510954	33.2213931735
3.77903366892	19.9612053995	33.2213931735	46.0

#### **POLICY**

-46.0	EAST	EAST	SOUTH
SOUTH	SOUTH	W	SOUTH
EAST	EAST	EAST	SOUTH
EAST	EAST	EAST	46.0

No policy changes after this iteration.

#### Iteration - 12

- $0.1 \quad N = -24.6051584448 \quad E = -12.9757073875 \quad W = -47.4921183175 \quad S = -15.5026853626$
- $0.2 \quad N = -11.9247017304 \quad E = -2.78008873964 \quad W = -20.2906070786 \quad S = -11.9247017304$
- 03 N = -1.6207890399 E = 0.836550044288 W = -8.43784755361 S = 8.76352603569
- $1.0 \quad N = -46.9321959685 \quad E = -14.8781853473 \quad W = -19.5012796377 \quad S = -7.41978491575$
- 11 N = -20.6519057796 E = -10.8782136003 W = -15.5013078907 S = -1.70030112903
- 13 N = 2.13458942874 E = 12.3711139868 W = 12.3711139868 S = 21.7208954397
- $2.0 \quad N = -13.8472927828 \quad E = -1.14524317103 \quad W = -6.86472695775 \quad S = -4.78373482834$
- $2.1 \quad N = -7.97843425186 \quad E = 10.556974712 \quad W = -5.12862299839 \quad S = 5.72776679662$
- $2.2 \quad N = 13.5741349355 \quad E = 22.9990049516 \quad W = 4.85378525224 \quad S = 21.7532407111$
- 23 N = 13.7970140162 E = 24.1490049892 W = 15.9698992136 S = 33.2218904127
- 3.0 N = -4.57356504039 E = 3.80591906812 W = -5.45981831638 S = -4.26274915802
- 31 N = 2.93193752373 E = 19.9672219337 W = -3.58666566998 S = 6.78900700387
- 3 2 N = 15.3341293031 E = 33.2218904127 W = 8.71085473238 S = 23.5132350788

## **Board**

-46.0	-12.9757073875	-2.78008873964	8.76352603569
-7.41978491575	-1.70030112903	0.0	21.7208954397
-1.14524317103	10.556974712	22.9990049516	33.2218904127
3 80591906812	19 9672219337	33.2218904127	46.0

## **POLICY**

-46.0	EAST	EAST	SOUTH
SOUTH	SOUTH	W	SOUTH
EAST	EAST	EAST	SOUTH
EAST	EAST	EAST	46.0

No policy changes after this iteration.

#### Iteration - 13

- 0.1 N = -24.458574784 E = -12.8916718434 W = -47.4676008517 S = -15.4382497772
- N = -11.8452891269 E = -2.74519691938 W = -20.1365836579 S = -11.84528912690.2
- 0.3 N = -1.59083544185 E = 0.859262976084 W = -8.37562884417 S = 8.77506008134
- N = -46.9120086045 E = -14.8147652203 W = -19.3903522497 S = -7.348203141310
- N = -20.4925745145 E = -10.8021141708 W = -15.3777012002 S = -1.6664288348511
- N = 2.15499991648 E = 12.3752579966 W = 12.3752579966 S = 21.721691418113
- N = -13.7346547785 E = -1.11580681514 W = -6.79758112159 S = -4.7540915914120
- N = -7.91486472517 E = 10.5658960417 W = -5.06950245636 S = 5.7391537250121
- 22 N = 13.5770904737 E = 22.9996018666 W = 4.86766930606 S = 21.7553988427
- N = 13.7988058882 E = 24.1496018742 W = 15.9712935052 S = 33.2220895364
- N = -4.51888043664 E = 3.81984513666 W = -5.4291971558 S = -4.237950645333 0
- 31 N = 2.94836071771 E = 19.9699319948 W = -3.56284508093 S = 6.79655849504
- N = 15.3359261546 E = 33.2220895364 W = 8.71586708338 S = 23.5142345236 3 2

## Board

-46.0	-12.89167184	34 -2	.745196919	38	8.7750600813	34
-7.348	2031413	-1.666428	383485	0.0	21.721691418	31
1 115	Q06Q151 <i>1</i>	10 56590	60/17	22 000	6019666	33 2220

-1.1138U081514 10.5658960417 3.81984513666 19.9699319049 22.9996018666 33.2220895364 19.9699319948 33.2220895364 46.0

## **POLICY**

-46.0	EAST	EAST	SOUTH
SOUTH	SOUTH	W	SOUTH
EAST	EAST	EAST	SOUTH
EAST	EAST	EAST	46.0

No policy changes after this iteration.

#### Iteration - 14

- 0.1 N = -24.3878571666 E = -12.8519676033 W = -47.4558100678 S = -15.4076627598
- $0.2 \quad N = -11.8078187117 \quad E = -2.7289913188 \quad W = -20.0623768586 \quad S = -11.8078187117$
- 03 N = -1.57696561873 E = 0.869723215018 W = -8.34648238556 S = 8.7803394507
- 10 N = -46.9014631976 E = -14.7847237494 W = -19.3301431946 S = -7.31410864973
- 11 N = -20.4148006723 E = -10.765720648 W = -15.3111400932 S = -1.64874636425
- 13 N = 2.1643863487 E = 12.3770680963 W = 12.3770680963 S = 21.7220099128
- $2.0 \quad N = -13.6735535904 \quad E = -1.1001189671 \quad W = -6.76548125257 \quad S = -4.73911496801$
- 2 1 N = -7.88476356273 E = 10.5700318093 W = -5.04229513612 S = 5.74432510097
- $2.2 \quad N = 13.5784800511 \quad E = 22.9998407694 \quad W = 4.87488597367 \quad S = 21.756470187$
- $2.3 \quad N = 13.7995222748 \quad E = 24.149840771 \quad W = 15.9718506351 \quad S = 33.2221691403$
- $3.0 \quad N = -4.49366773897 \quad E = 3.82634942797 \quad W = -5.41372005852 \quad S = -4.22514617753$
- $3.1 \quad N = 2.95691030068 \quad E = 19.9712544328 \quad W = -3.55054108702 \quad S = 6.80013906313$
- $3.2 \quad N = 15.3366746928 \quad E = 33.2221691403 \quad W = 8.71811473612 \quad S = 23.5146648286$

#### Board

-46.0	-12.8519676033	-2.7289913188	8.7803394507
-7.31410864973	-1.64874636425	0.0	21.7220099128
-1.1001189671	10.5700318093	22.9998407694	33.2221691403
3.82634942797	19.9712544328	33.2221691403	46.0

#### **POLICY**

-46.0	EAST	EAST	SOUTH
SOUTH	SOUTH	W	SOUTH
EAST	EAST	EAST	SOUTH
EAST	EAST	EAST	46.0

No policy changes after this iteration.

#### Iteration - 15

- 0.1 N = -24.3544732145 E = -12.8332644518 W = -47.4500713968 S = -15.3918962233
- $0.2 \quad N = -11.7903558703 \quad E = -2.7215267032 \quad W = -20.0273723464 \quad S = -11.7903558703$
- 03 N = -1.57059362625 E = 0.874506496909 W = -8.3329581187 S = 8.78274274341
- 10 N = -46.8962855014 E = -14.7690089881 W = -19.3012988165 S = -7.29638067508
- $1.1 \quad N = -20.3778595841 \quad E = -10.7471906708 \quad W = -15.2794804992 \quad S = -1.64026005396$
- 13 N = 2.16867354312 E = 12.3778587893 W = 12.3778587893 S = 21.7221372948
- $2.0 \quad N = -13.6442956356 \quad E = -1.09275047474 \quad W = -6.74887109585 \quad S = -4.7319291734$
- 2.1 N = -7.86902491116 E = 10.5721234224 W = -5.02784436682 S = 5.74697572647
- $2.2 \quad N = 13.5790927105 \quad E = 22.9999363032 \quad W = 4.87822643841 \quad S = 21.7569554072$
- $2.3 \quad N = 13.7998089212 \quad E = 24.1499363035 \quad W = 15.9720736068 \quad S = 33.222200991$
- $3.0 \quad N = -4.4803347876 \quad E = 3.82962659232 \quad W = -5.40629741154 \quad S = -4.21916007155$
- 3.1 N = 2.96087730426 E = 19.9718639365 W = -3.54479183342 S = 6.80185540306
- 3 2 N = 15.3369980588 E = 33.222200991 W = 8.71920453721 S = 23.5148607555

### Board

-46.0	-12.8332644518	-2.7215267032	8.78274274341
-7.29638067508	-1.64026005396	0.0	21.7221372948
-1.09275047474	10.5721234224	22.9999363032	33.222200991
3.82962659232	19.9718639365	33.222200991	46.0

## **POLICY**

-46.0	EAST	EAST	SOUTH
SOUTH	SOUTH	W	SOUTH
EAST	EAST	EAST	SOUTH
EAST	EAST	EAST	46.0

No policy changes after this iteration.

# **Final Policy -->**

 $[3, 0] \longrightarrow [3, 1] \longrightarrow [3, 2] \longrightarrow [3, 3]$ 

\_\_\_\_\_

## **Final Board -->**

-46.0	-12.8332644518	-2.7215267032	8.78274274341
-7.29638067508	-1.64026005396	0.0	21.7221372948
-1.09275047474	10.5721234224	22.9999363032	33.222200991
3.82962659232	19.9718639365	33.222200991	46.0

After certain number of iterations policy changes reduced considerably, as the flow of information from one state to another stops affecting the magnitude of original value by a large amount.