

①

 $k=1$

0	-1	-1	-1
-1	-1	-1	-1
-1	-1	-1	-1
-1	-1	-1	0

 $k=2$

0	-1	-2	-2
-1	-2	-2	-2
-2	-2	-2	-1
-2	-2	-1	0

UDRL

$$② \begin{bmatrix} -1+1(-1) & -1+1(-1) & -1+1(-1) & -1+1(0) \end{bmatrix} = \begin{bmatrix} -2 & -2 & -2 & -1 \end{bmatrix}$$

$$③ \begin{bmatrix} -1+1(0) & -1+1(-1) & -1+1(-1) & -1+1(-1) \end{bmatrix} = \begin{bmatrix} -2 & -2 & -2 & -2 \end{bmatrix}$$

 $k=3$

0	-1	-2	-3
-1	-2	-3	-2
-2	-3	-2	-1
-3	-2	-1	0

 $k=4$

0	-1	-2	-3
-1	-2	-3	-2
-2	-3	-2	-1
-3	-2	-1	0

② In $k=4$ iterations, value iteration process converged.