Bài tập 1

# Loop 0

Current State:

(-1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1)

Successors:

(0, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1)

(1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1)

(2, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1)

(3, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1)

(4, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1)

(5, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1)

(6, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1)

(7, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1)

(8, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1)

(9, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1)

(10, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1)

(11, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1)

(12, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1)

(13, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1)

(14, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1)

Chosed Next State:

(14, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1)

DeltaE

28

# Loop 1

Current State:

(14, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1)

Successors:

(14, 0, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1)

(14, 1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1)

(14, 2, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1)

(14, 3, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1)

(14, 4, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1)

(14, 5, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1)

(14, 6, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1)

(14, 7, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1)

(14, 8, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1)

(14, 9, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1)

(14, 10, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1)

(14, 11, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1)

(14, 12, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1)

Chosed Next State:

(14, 12, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1)

DeltaE

24

# Loop 2

Current State:

(14, 12, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1)

Successors:

(14, 12, 0, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1)

(14, 12, 1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1)

(14, 12, 2, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1)

(14, 12, 3, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1)

(14, 12, 4, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1)

(14, 12, 5, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1)

(14, 12, 6, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1)

(14, 12, 7, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1)

(14, 12, 8, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1)

(14, 12, 9, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1)

(14, 12, 10, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1)

Chosed Next State:

(14, 12, 1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1)

DeltaE

22

# Loop 3

Current State:

(14, 12, 1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1)

Successors:

(14, 12, 1, 3, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1)

(14, 12, 1, 4, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1)

(14, 12, 1, 5, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1)

(14, 12, 1, 6, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1)

(14, 12, 1, 7, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1)

(14, 12, 1, 8, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1)

(14, 12, 1, 9, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1)

(14, 12, 1, 13, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1)

Chosed Next State:

(14, 12, 1, 4, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1)

DeltaE

20

# Loop 4

Current State:

(14, 12, 1, 4, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1)

Successors:

(14, 12, 1, 4, 0, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1)

(14, 12, 1, 4, 2, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1)

(14, 12, 1, 4, 6, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1)

(14, 12, 1, 4, 7, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1)

(14, 12, 1, 4, 8, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1)

(14, 12, 1, 4, 11, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1)

(14, 12, 1, 4, 13, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1)

Chosed Next State:

(14, 12, 1, 4, 2, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1)

DeltaE

20

# Loop 5

Current State:

(14, 12, 1, 4, 2, -1, -1, -1, -1, -1, -1, -1, -1, -1, -1)

Successors:

(14, 12, 1, 4, 2, 0, -1, -1, -1, -1, -1, -1, -1, -1, -1)

(14, 12, 1, 4, 2, 5, -1, -1, -1, -1, -1, -1, -1, -1, -1)

(14, 12, 1, 4, 2, 7, -1, -1, -1, -1, -1, -1, -1, -1, -1)

(14, 12, 1, 4, 2, 10, -1, -1, -1, -1, -1, -1, -1, -1, -1)

(14, 12, 1, 4, 2, 11, -1, -1, -1, -1, -1, -1, -1, -1, -1)

(14, 12, 1, 4, 2, 13, -1, -1, -1, -1, -1, -1, -1, -1, -1)

Chosed Next State:

(14, 12, 1, 4, 2, 7, -1, -1, -1, -1, -1, -1, -1, -1, -1)

DeltaE

16

# Loop 6

Current State:

(14, 12, 1, 4, 2, 7, -1, -1, -1, -1, -1, -1, -1, -1, -1)

Successors:

(14, 12, 1, 4, 2, 7, 3, -1, -1, -1, -1, -1, -1, -1, -1)

(14, 12, 1, 4, 2, 7, 9, -1, -1, -1, -1, -1, -1, -1, -1)

(14, 12, 1, 4, 2, 7, 10, -1, -1, -1, -1, -1, -1, -1, -1)

(14, 12, 1, 4, 2, 7, 11, -1, -1, -1, -1, -1, -1, -1, -1)

(14, 12, 1, 4, 2, 7, 13, -1, -1, -1, -1, -1, -1, -1, -1)

Chosed Next State:

(14, 12, 1, 4, 2, 7, 10, -1, -1, -1, -1, -1, -1, -1, -1)

DeltaE

16

# Loop 7

Current State:

(14, 12, 1, 4, 2, 7, 10, -1, -1, -1, -1, -1, -1, -1, -1)

Successors:

(14, 12, 1, 4, 2, 7, 10, 3, -1, -1, -1, -1, -1, -1, -1)

(14, 12, 1, 4, 2, 7, 10, 13, -1, -1, -1, -1, -1, -1, -1)

Chosed Next State:

(14, 12, 1, 4, 2, 7, 10, 13, -1, -1, -1, -1, -1, -1, -1)

DeltaE

16

# Loop 8

Current State:

(14, 12, 1, 4, 2, 7, 10, 13, -1, -1, -1, -1, -1, -1, -1)

Successors:

(14, 12, 1, 4, 2, 7, 10, 13, 0, -1, -1, -1, -1, -1, -1)

(14, 12, 1, 4, 2, 7, 10, 13, 3, -1, -1, -1, -1, -1, -1)

(14, 12, 1, 4, 2, 7, 10, 13, 11, -1, -1, -1, -1, -1, -1)

Chosed Next State:

(14, 12, 1, 4, 2, 7, 10, 13, 3, -1, -1, -1, -1, -1, -1)

DeltaE

12

# Loop 9

Current State:

(14, 12, 1, 4, 2, 7, 10, 13, 3, -1, -1, -1, -1, -1, -1)

Successors:

(14, 12, 1, 4, 2, 7, 10, 13, 3, 0, -1, -1, -1, -1, -1)

(14, 12, 1, 4, 2, 7, 10, 13, 3, 6, -1, -1, -1, -1, -1)

(14, 12, 1, 4, 2, 7, 10, 13, 3, 9, -1, -1, -1, -1, -1)

Chosed Next State:

(14, 12, 1, 4, 2, 7, 10, 13, 3, 6, -1, -1, -1, -1, -1)

DeltaE

10