Ch2.

14.
g h i f c a d b e
6 7 8 5 2 0 3 1 4

↓

d h i f c a g b e
3 7 8 5 2 0 6 1 4

↓

f h i d c a g b e
5 7 8 3 2 0 6 1 4

↓

a h i d c f g b e
0 7 8 3 2 5 6 1 4

↓

a h i d c f g b e
0 7 8 3 2 5 6 1 4

↓

a b i d c f g h e
0 1 8 3 2 5 6 7 4

↓

后右

↓

a b i d c f g h e
0 1 8 3 2 5 6 7 4

↓

a b e d c f g h i
0 1 4 3 2 5 6 7 8

↓

a b c d e f g h i
0 1 2 3 4 5 6 7 8

↓

a b c d e f g h i
0 1 2 3 4 5 6 7 8

↓

··· →

↓

a b c d e f g h i
0 1 2 3 4 5 6 7 8

Ch2.

15.

1)
9 8 7 6 5 4 3 2 1 0
0 8 7 6 5 4 3 2 1 9
0 1 7 6 5 4 3 2 8 9
0 1 2 6 5 4 3 7 8 9
0 1 2 3 5 4 6 7 8 9
0 1 2 3 4 5 6 7 8 9
0 1 2 3 4 5 6 7 8 9

2)
8 4 5 2 1 6 7 3 0
0 4 5 2 1 6 7 3 8
0 4 5 2 1 6 3 7 8
0 4 5 2 1 3 6 7 8
0 4 3 2 1 5 6 7 8
0 1 3 2 4 5 6 7 8
0 1 2 3 4 5 6 7 8
0 1 2 3 4 5 6 7 8

16.
4 2 6 7 1 0 9 8 5 3
2 4 6 1 0 7 8 5 3 9
2 4 1 0 6 7 5 3 8 9
2 1 0 4 6 5 3 7 8 9
1 0 2 4 5 3 6 7 8 9
0 1 2 4 3 5 6 7 8 9
0 1 2 3 4 5 6 7 8 9
0 1 2 3 4 5 6 7 8 9

17.
4 2 6 7 1 0 9 8 5 3
2 4 6 7 1 0 9 8 5 3
2 4 6 7 1 0 9 8 5 3
2 4 6 7 1 0 9 8 5 3
1 2 4 6 7 0 9 8 5 3
0 1 2 4 6 7 9 8 5 3
0 1 2 4 6 7 9 8 5 3
0 1 2 4 6 7 8 9 5 3
0 1 2 4 5 6 7 8 9 3
0 1 2 3 4 5 6 7 8 9

Ch2.

2b.

Program 2-24 :

$n = 0, 1$ count $= 0$

$n \neq 0, 1$ count $= 2(n-1)$

$\Rightarrow$

$$count = \begin{cases} 0 & n=0 \\ 2(n-1) & n \neq 0 \end{cases}, n \in N$$

Program 2-25 :

Best Case : $a[\text{IndexOfMin}] > a[i]$ is always true.

$n = 0, 1$ count $= 0$

$n \neq 0, 1$ count $= n-1$

$\Rightarrow$

$$count = \begin{cases} 0 & n=0 \\ n-1 & n \neq 0 \end{cases}, n \in N$$

Worst Case : $a[\text{IndexOfMin}] > a[i]$ is always false.

$n = 0, 1$ count $= 0$

$n \neq 0, 1$ count $= 2(n-1)$

$\Rightarrow$

$$count = \begin{cases} 0 & n=0 \\ 2(n-1) & n \neq 0 \end{cases}, n \in N$$

Program 2-25 is better than Program 2-24, cause the worst case of 2-25 is what 2-24 does, and in other cases, 2-25 costs less steps of comparison than 2-24.