

Selection-Sort : $A = \{1, 6, 3, 4, 5\}$

$n=5$

for $j=1$ to $(n-1)$

$j=1$; $ek=1$,

$i=2$, $A[2] < A[1]$ Hayır.

$i=3$ $A[3] < A[1]$ Hayır

$i=4$ $A[4] < A[1]$ Hayır

$i=5$ $A[5] < A[1]$ Hayır.

$i=6$ endfor $\longrightarrow A[1] \leftrightarrow A[1] \rightarrow \{1, \dots\}$

$j=2$, $ek=2$

$i=3$ $A[3] < A[2]$ evet , $ek=3$

$i=4$ $A[4] < A[3]$ Hayır

$i=5$ $A[5] < A[3]$ Hayır.

$i=6$ endfor $\longrightarrow A[2] \overset{\text{Yerl.}}{\leftrightarrow} A[3] \rightarrow \{1, 3, 6, 4, 5\}$

$j=3$, $ek=3$

$i=4$ $A[4] < A[3]$ evet $ek=4$

$i=5$ $A[5] < A[4]$ Hayır.

$i=6$ endfor $\longrightarrow A[3] \leftrightarrow A[4] \rightarrow \{1, 3, 4, 6, 5\}$

$j=4$, $ek=4$

$i=5$ $A[5] < A[4]$ evet $ek=5$

$i=6$ endfor $\longrightarrow A[4] \leftrightarrow A[5] \rightarrow \{1, 3, 4, 5, 6\}$

$j=5 \rightarrow$ end for

$n = \text{length}(A) \longrightarrow 1$

for $j=1$ to $n-1 \longrightarrow n$

do $ek=j \longrightarrow n-1$

for $i=j+1$ to $n \longrightarrow \sum_{j=1}^{n-1} (n-j+1)$

do if $A[i] < A[ek] \longrightarrow \sum_{j=1}^{n-1} (n-j)$

then $ek=i \longrightarrow \sum_{j=1}^{n-1} (n-j)$

Yerdegistir $A[j] \leftrightarrow A[ek] \longrightarrow n-1$

selection.Sort
Sayfa 1
Doğrulama
Analiz.

JAN 16

$$T(n) = C_1 + C_2 n + C_3 (n-1) + C_4 \cdot \sum_{j=1}^{n-1} (n-j+1) + C_5 \sum_{j=1}^{n-1} (n-j) + C_6 \sum_{j=1}^{n-1} (n-j) + C_7 (n-1)$$

$$T(n) = C_1 + C_2 n + C_3 (n-1) + C_4 \cdot \frac{(n-1)(n+2)}{2} + C_5 \frac{n^2-n}{2} + C_6 \frac{n^2-n}{2} + C_7 (n-1)$$

$$= C_1 + C_2 n + C_3 (n-1) + \frac{C_4}{2} n^2 + \frac{C_4}{2} n - 2 \cdot C_4 + \frac{C_5 n^2}{2} - \frac{C_5 n}{2} + \frac{C_6 n^2}{2} - \frac{C_6 n}{2} + C_7 (n-1)$$

$$T(n) = \frac{C_4 + C_5 + C_6}{2} n^2 + \left(C_2 + C_3 + \frac{C_4}{2} - \frac{C_5}{2} - \frac{C_6}{2} + C_7 \right) n + (C_1 - C_3 - 2C_4 - C_7)$$

$$T(n) = an^2 + bn + c \quad \text{olarak bulunur.}$$

$$\sum_{j=1}^{n-1} n-j+1 = \sum_{j=1}^{n-1} n - \sum_{j=1}^{n-1} j + (n-1) = n(n-1) - \frac{(n-1)n}{2} + (n-1) = \frac{n(n-1)}{2} + (n-1) = \frac{(n+2)(n-1)}{2}$$

$$\sum_{j=1}^{n-1} n-j = \sum_{j=1}^{n-1} n - \sum_{j=1}^{n-1} j = n(n-1) - \frac{(n-1)n}{2} = \frac{n(n-1)}{2}$$

Selection Sort
Sayfa 2
Doğrulama/Analiz