

Nama: Muhammad Rezia D.

Kelas: 2B

Nim: 20090127

1) Insertion sort

Data:

25	7	9	13	3
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Step 1 cek bilangan indeks 1 (7) apakah lebih kecil daripada bilangan Indeks 0 (25). Bila lebih kecil maka ditukar dan sebaliknya

25	7	9	13	3
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Step 1 $7 < 25 = \text{True}$ (ditukar)

25	7	9	13	3
7	25	9	13	3

Step 2 $9 < 25 = \text{True}$ (ditukar), $9 < 7 = \text{False}$ (tetap)

7	9	25	13	3
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Step 3 $13 < 25 = \text{True}$ (ditukar), $13 < 9 = \text{False}$ (tetap)

7	9	13	25	3
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Step 4 $3 < 25 = \text{True}$ (ditukar), $3 < 13 = \text{True}$ (ditukar), $3 < 9 = \text{True}$ (tukar), $3 < 7 = \text{True}$ (tukar)

3	7	9	13	25
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2.)

2. Bubble Sort

Data = [25 | 7 | 9 | 13 | 3]

$i=1$ $j=4$: [25 | 7 | 9 | 13 | 3]

$j=3$: 25 7 [9 | 13] 3

$j=2$: 25 [7 | 3] 9 13

$j=1$: [25 | 3] 7 9 13

$i=2$ $j=4$: 3 25 7 [9 | 13]

$j=3$: 3 25 [7 | 9] 13

$j=2$: 3 [7 | 25] 9 13

~~$j=1$~~

$i=3$ $j=4$: 3 7 25 [9 | 13]

$j=3$: 3 7 [25 | 9] 13

$i=4$ $j=4$: 3 7 9 [25 | 13]

Akhir : [3 | 7 | 9 | 13 | 25]

3. Selection Sort

Data : [25 | 7 | 9 | 13 | 3]

[25 | 7 | 9 | 13 | 3]

↗ ↖

[3 | 7 | 9 | 13 | 25]

↑

[3 | 7 | 9 | 13 | 25]

↑

[3 | 7 | 9 | 13 | 25]

↑

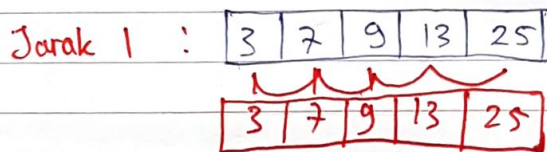
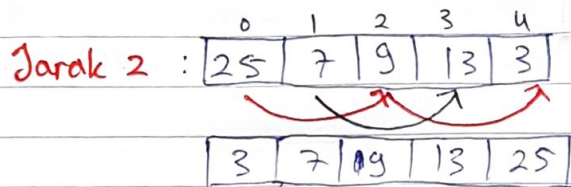
[3 | 7 | 9 | 13 | 25]

4. Shell Sort

Data =

25	7	9	13	3
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$$N = 5/2 = 2,5 \approx 2$$



7. Ilustrasikan algoritma sorting (Insertion sort) dan algoritma searching binary

➤ Insertion Sort

25 | 7 | 9 | 13 | 3

Step 1 : 7 | 25 | 9 | 13 | 3

Step 2 : 7 | 9 | 25 | 13 | 3

Step 3 : 7 | 9 | 13 | 25 | 3

Step 4 : 3 | 7 | 9 | 13 | 25

Setelah itu, data diurutkan, lakukan pencarian "13"

➤ Binary Search

Batas awal + Batas Akhir = 3 | 7 | 9 | 13 | 25

1. Batas Tengah = $(0+4)/2 = 2$

$A(2) = 9$; $9 < 13$ = cari ke kanan →

2. Batas Tengah = $(3+4)/2 = 3$

$A(3) = 13$; $13 = 13$;

Data ditemukan di indeks (3)

9 | 13 | 25