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1. Soal 1
   1. 1a

for j=1 to n-1 *//n-1*

  k=j *//n-1*

  for i=j+1 to n *//(n^2-n)/2*

    if a[i]<a[k] then *//(n^2-n)/2*

      k=i *//(n^2-n)/2*

    endif

  endfor

  tm = a[j] *//n-1*

  a[j] = a[k] *//n-1*

  a[k] = tm *//n-1*

endfor

loop i=j+1

|  |  |  |
| --- | --- | --- |
| j | I=j+1 | Banyak loop |
| 1 | 2 | n-1 |
| 2 | 3 | n-2 |
| 3 | 4 | n-3 |
| … | … | … |
| n-1 | n | 1 |

* 1. 1b

for i=0 to n-1 *//(n)*

for j=0 to n-1 *//(n\*n)*

c[i,j]=0 *//(n\*n)*

for k=0 to n-1 *//(n\*n\*n)*

cij=d[i,k]and b[k,j] *//(n\*n\*n)*

c[i,j]=c[i,j] or cij *//(n\*n\*n)*

endfor

endfor

endfor

1. No2
   1. 2a

ada = 0; *//1*

kx=1; *//1*

input br;

for (i=1;i<n+1;i++){ *//n*

  if(a[i]==br&&(!ada)){ *//n*

    ada=1; *//1*

    kx=i; *//1*

    i=n+1; *//1*

  }

}

* 1. 2b

L=1; *//1*

R=n; *//1*

ada=0; *//1*

input br;

while(L<=R)&&(!ada){ *//log n*

  m=(L+R)div 2; *//log n*

  if(a[m]==br) *//log n*

    ada=1; *//1*

  else if(br<a[m]) *//baris 9 - akhir 2(log n-1)*

    R=m-1;

  else

    L=m+1;

}

Loop while

|  |  |
| --- | --- |
| k | n |
| 1 |  |
| 2 |  |
| 3 |  |
| … |  |
| K |  |

Worst case, n akan dibagi sama jadi 1, jadi

Jumlah data

Komputer A mengeksekusi

Kompleksitas

Komputer B mengeksekusi

Kompleksitas

Algoritma b lebih baik dari pada algoritma a, karena running time-nya lebih cepat dibanding algoritma a walaupun komputer b lebih lambat dalam mengeksekusinya.