1. Cari masing-masing T(n), Komplesitas O, c dan n0!
2. Algoritma

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| No | Algoritma | Operasi | T(n) | Kompleksitas O | Keterangan |
| 1 | For j = 1 to n-1 | kalang |  |  |  |
| 2 | k = j | assignment | = 1 | 0(1) |  |
| 3 | For i = j + 1 to n | Kalang |  |  |  |
| 4 | if a[i] < a[k] then | perbandingan | = 1+ n(n-1)/2 | O(n2) |  |
| 5 | k=i | assignment | = 1 + 2n(n-1)/2 |  |  |
| 6 | endif |  | = 1 + n(n-1) |  |  |
| 7 | endfor |  |  |  |  |
| 8 | tm=a[j] | assignment | = 1 + n(n-1) + 1 |  |  |
| 9 | a[j] = a[k] | assignment | = 2 + n(n-1) + 1 |  |  |
| 10 | a[k] = tm | assignment | = 3 + n(n-1) + 1 |  |  |
| 11 | endfor |  | = 4(n-1)+ n(n-1)  = n2 + 3n - 4 | O(n2) |  |

Dengan n2 ≥ n dan n2 ≥ 1, maka T(n) = n2 + 3n – 4 dan n2 + 3n – 4 ≤ n2 + 3n2 - 4n2  jadi c = 1.5 dan n0 = 2. Kompleksitas O = O(n2)

1. Algoritma

|  |  |
| --- | --- |
| No | Algoritma |
| 1 | for i=0 to n-1 |
| 2 | for j=0 to n-1 |
| 3 | c[i,j] = 0 |
| 4 | for k=0 to n-1 |
| 5 | cij= d[i,k] and b[k,j] |
| 6 | c[i,j] = c[i,j] or cij |
| 7 | endfor |
| 8 | endfor |
| 9 | endfor |

Menghitung T(n). Kita mulai dari kalang terdalam

* Baris 5 dan 6 -> 2 operasi. T(n) = 2
* Baris 4 -> kalang. T(n) = 2n
* Baris 3 -> 1 operasi. T(n) = 1 + 2n
* Baris 2 -> kalang. T(n) = 2n2 + n
* Baris 1 -> kalang. T(n) = 2n3 + n2

Jadi T(n) = 2n3 + n2. Dengan n3 ≥ n2, maka 2n3 + n2 ≤ 2n3 + n3 = 3n3. Jadi c = 3 dan n0 = 1. Kompleksitas O = O(n2)

1. A. Cari masing-masing T(n), Komplesitas O, c dan n0!