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Kelas: B

Tugas Pengganti Liburan Praktikum Analgo

Counting Sort

Pseudocode

```
function countingSort(array, k) is  
    count  $\leftarrow$  new array of k zeros  
    for i = 1 to length(array) do  
        count[array[i]]  $\leftarrow$  count[array[i]] + 1  
    for i = 2 to k do  
        count[i]  $\leftarrow$  count[i] + count[i - 1]  
    for i = length(array) downto 1 do  
        output[count[array[i]]]  $\leftarrow$  array[i]  
        count[array[i]]  $\leftarrow$  count[array[i]] - 1  
    return output
```

Hitung Manual

Terdapat 6 angka : 2 4 3 2 6 5

/\*inisiasi awal\*/

/\*format

1 index

2 count

3 output\*/

1 2 3 4 5 6

0 0 0 0 0 0

0 0 0 0 0 0

1 2 3 4 5 6

0 1 0 0 0 0

0 0 0 0 0 0

1 2 3 4 5 6  
0 1 0 1 0 0  
0 0 0 0 0 0

1 2 3 4 5 6  
0 1 1 1 0 0  
0 0 0 0 0 0

1 2 3 4 5 6  
0 2 1 1 0 0  
0 0 0 0 0 0

1 2 3 4 5 6  
0 2 1 1 0 1  
0 0 0 0 0 0

1 2 3 4 5 6  
0 2 1 1 1 1  
0 0 0 0 0 0

1 2 3 4 5 6  
0 2 1 1 1 1  
0 0 0 0 0 0

1 2 3 4 5 6  
0 2 3 1 1 1  
0 0 0 0 0 0

1 2 3 4 5 6  
0 2 3 4 1 1  
0 0 0 0 0 0

1 2 3 4 5 6  
0 2 3 4 5 1  
0 0 0 0 0 0

1 2 3 4 5 6  
0 2 3 4 5 6

0 0 0 0 0 0

1 2 3 4 5 6

0 2 3 4 5 6

0 2 0 0 0 0

1 2 3 4 5 6

0 2 3 4 5 6

0 2 0 4 0 0

1 2 3 4 5 6

0 2 3 4 5 6

0 2 3 4 0 0

1 2 3 4 5 6

0 2 3 4 5 6

2 2 3 4 0 0

1 2 3 4 5 6

0 2 3 4 5 6

2 2 3 4 0 6

1 2 3 4 5 6

0 2 3 4 5 6

2 2 3 4 5 6

Hasil : 2 2 3 4 5 6

Analisa Big-O:

Big-O dari algoritma Count Sort adalah:  $O(n+k)$