Nama : Angga Kresnabayu

Kelas : A

NPM : 140810160001

Studi Kasus 1: Pencarian Nilai Maksimal

Jawaban Studi Kasus 1

a. Operasi Pengisian Nilai (Assignment)

* Base Case
* maks <- x1 => 1 kali
* i <- 2 => 1 kali
* i <- i+1 => n – 1 kali
* maks <- xi => 0 kali
* T1min = 1 +1 + n - 1 + 0 = 1 + 2n
* Worst Case
* maks <- x1, =>1 kali
* i <- 2 , => 1 kali
* i <- i+1, =>n – 1 kali
* maks <- xi =>n kali
* T1max = 1 +1 + n - 1 + n = 1 + 2n

b. Operasi Penjumlahan

* Base Case dan Worst Case
* i + 1 , => n – 1 kali
* T2max = n-1 dan T2min = n – 1

c. Operasi Perbandingan

* Base Case dan Worst Case
* xi > maks, => n kali
* T2max = n dan T3min = n

d.Operasi Pengisian

* T(min)= t\_1+ t\_2+ t\_3=1+n+n-1+n=3n
* T(max)= t\_1+ t\_2+ t\_3=1+2n+n-1+n=4n

# Studi Kasus 2: Sequential Search

Jawaban Studi Kasus 2

a. Operasi Pengisian Nilai (Assignment)

* Base Case
* i <- 1 => 1 kali
* found <- false => 1 kali
* found = true => 1 kali
* i <- i + 1 => 0 kali
* idx <- i => 1 kali
* idx <- 0 => 0 kali
* T1min = 1 + 1 + 1 + 0 + 1 + 0 = 4
* Worst Case
* i <- 1 => 1 kali
* found <- false => 1 kali
* found = true => 1 kali
* i <- i + 1 => n - 1 kali
* idx <- i => 1 kali
* idx <- 0 => 0 kali
* T1min = 1 + 1 + 1 + n - 1 + 1 + 0 = 3 + n

b. Operasi Penjumlahan

* Base Case
* i + 1 = 0 kali
* T2min = 0
* Worst Case
* i + 1 = n - 1 kali
* T2min = n - 1

c. Operasi Perbandingan

* Base Case
* xi == y => 1 kali
* found == true => 1 kali
* T3min = 1 + 1 = 2
* Worst Case
* xi == y => n kali
* found == true => 1 kali
* T3min = n + 1

d. Operasi Pengisian

* T(min)= t\_1+ t\_2+ t\_3= 4 + 0 + 2 = 6
* T(max)= t\_1+ t\_2+ t\_3= 3 + n + n - 1 + n + 1 = 3n + 3

# Studi Kasus 3: *Binary Search*

Jawaban Studi Kasus 3

# Studi Kasus 4: Insertion Sort

Jawaban Studi Kasus 4

# Studi Kasus 5: Selection Sort

Jawaban Studi Kasus 5