

Praktikum Algostruk
Modul 5

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File Edit Format Run Options Window Help
# 5-Pengurutan

def swap(A, p, q):
    tmp = A[p]
    A[p] = A[q]
    A[q] = tmp

K = [10, 11, 12, 13, 14]
swap(K, 1, 3) # menukar indeks ke-1 dengan 3
# print(K)

def cariPosisiTerkecil(A, dariSini, sampaiSini):
    posisiTerkecil = dariSini
    for i in range(dariSini + 1, sampaiSini):
        if A[i] < A[posisiTerkecil]:
            posisiTerkecil = i
    return posisiTerkecil

A = [18, 13, 44, 25, 66, 107, 78, 89]
# print(cariPosisiTerkecil(A, 2, len(A)))
# print(cariPosisiTerkecil(A, 0, len(A)))

# Bubble Sort
def bubbleSort(A):
    n = len(A)
    for i in range(n-1):
        for j in range(n-i-1):
            if A[j] > A[j+1]:
                swap(A, j, j+1)
    return A

worst = [99, 87, 76, 65, 53, 42, 33, 20, 11, 3]
average = [3, 20, 11, 76, 87, 99, 42, 53, 33, 65]
best = [3, 11, 20, 33, 42, 53, 65, 76, 87, 99]

hasil1 = bubbleSort(worst)
hasil2 = bubbleSort(average)
hasil3 = bubbleSort(best)
# print('Hasil worst case:', hasil1)
# print('Hasil avrg. case:', hasil2)
# print('Hasil best case:', hasil3)
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# Selection Sort
def selectionSort(A):
    n = len(A)
    for i in range(n-1):
        indexKecil = cariPosisiTerkecil(A, i, n)
        if indexKecil != i:
            swap(A, i, indexKecil)
    return A

ss1 = selectionSort(worst)
ss2 = selectionSort(average)
ss3 = selectionSort(best)
# print(ss1)
# print(ss2)
# print(ss3)

# Insertion Sort
def insertionSort(A):
    n = len(A)
    for i in range(1, n):
        nilai = A[i]
        pos = i
        while pos > 0 and nilai < A[pos-1]:
            A[pos] = A[pos-1]
            pos = pos-1
        A[pos] = nilai
    return A

is1 = insertionSort(worst)
is2 = insertionSort(average)
is3 = insertionSort(best)
print(is1)
print(is2)
print(is3)

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Hasil

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Python 3.7.4 Shell
File Edit Shell Debug Options Window Help
Python 3.7.4 (tags/v3.7.4:e09359112e, Jul  8 2019, 19:29:22) [MSC v.1916 32 bit
(Intel)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
===== RESTART: D:\Prak Algostruk\MODUL_5\Lat.py =====
[3, 11, 20, 33, 42, 53, 65, 76, 87, 99]
[3, 11, 20, 33, 42, 53, 65, 76, 87, 99]
[3, 11, 20, 33, 42, 53, 65, 76, 87, 99]
>>> |
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