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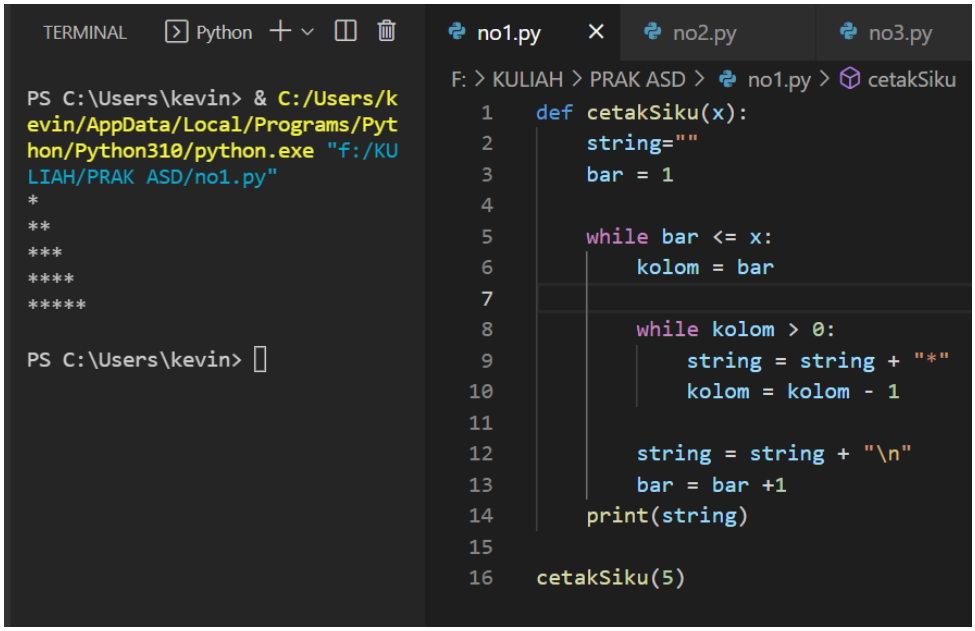
Modul : 1

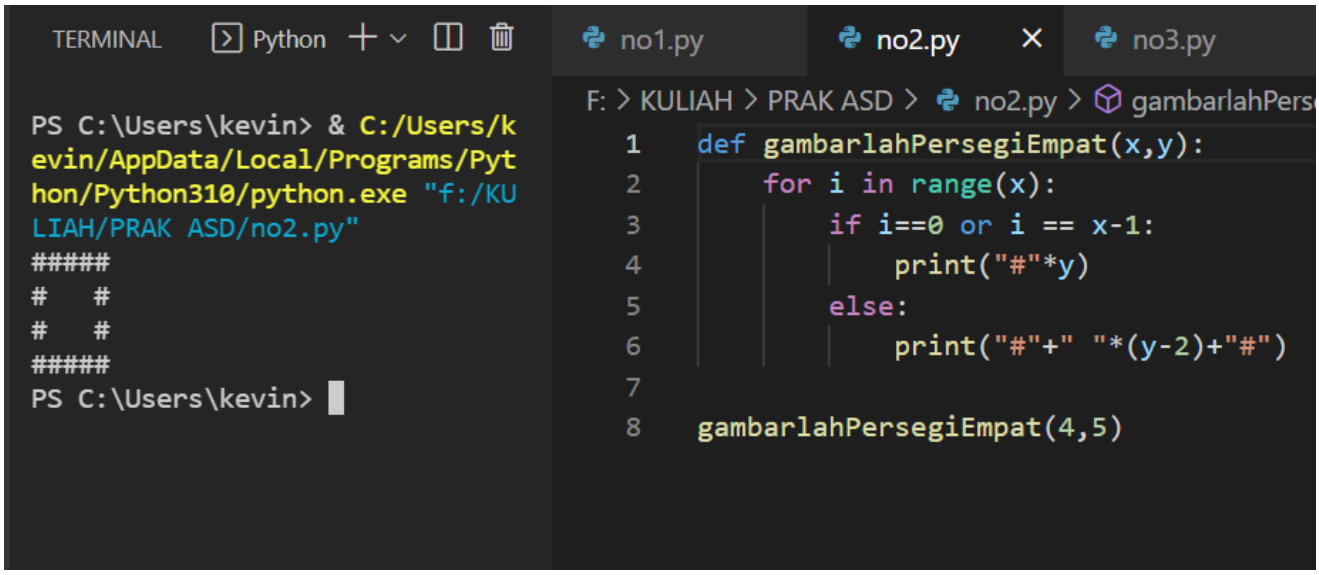
# Praktikum Algoritma Struktur Data

# MODUL 1 ASD

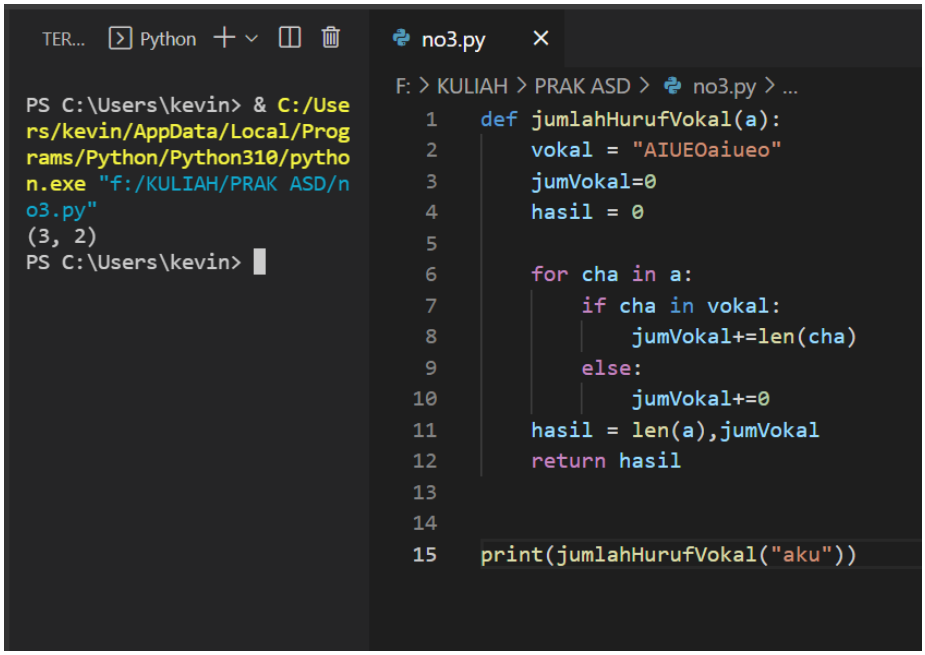
## No 1




## No 2



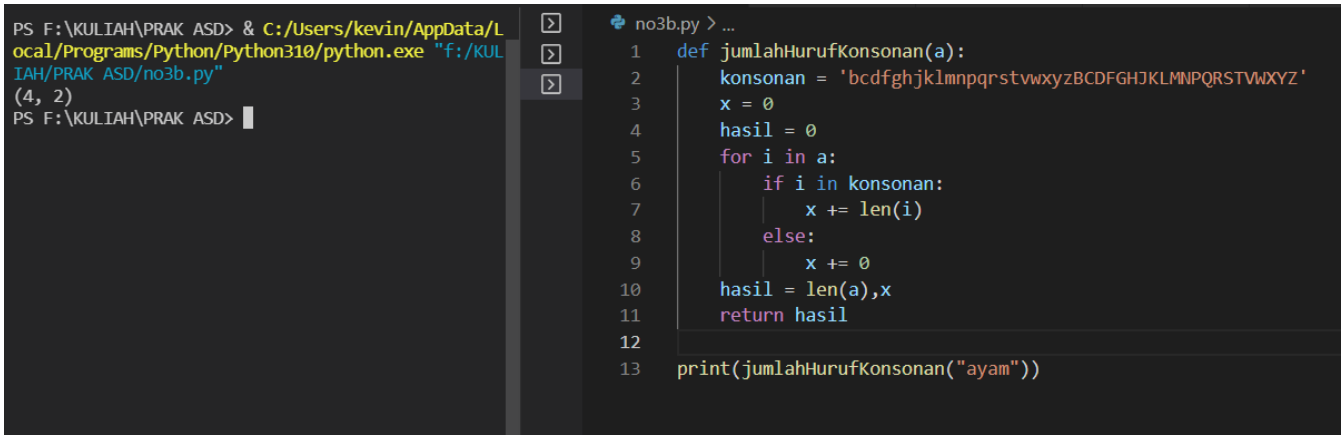
## No 3



```
PS C:\Users\kevin> & C:/Users/kevin/AppData/Local/Programs/Python/Python310/python.exe "f:/KULIAH/PRAK ASD/no3.py"
(3, 2)
PS C:\Users\kevin>
```

```
F: > KULIAH > PRAK ASD > no3.py > ...
1   def jumlahHurufVokal(a):
2       vokal = "AIUEOaiueo"
3       jumVokal=0
4       hasil = 0
5
6       for cha in a:
7           if cha in vokal:
8               jumVokal+=len(cha)
9           else:
10              jumVokal+=0
11      hasil = len(a),jumVokal
12      return hasil
13
14
15  print(jumlahHurufVokal("aku"))
```

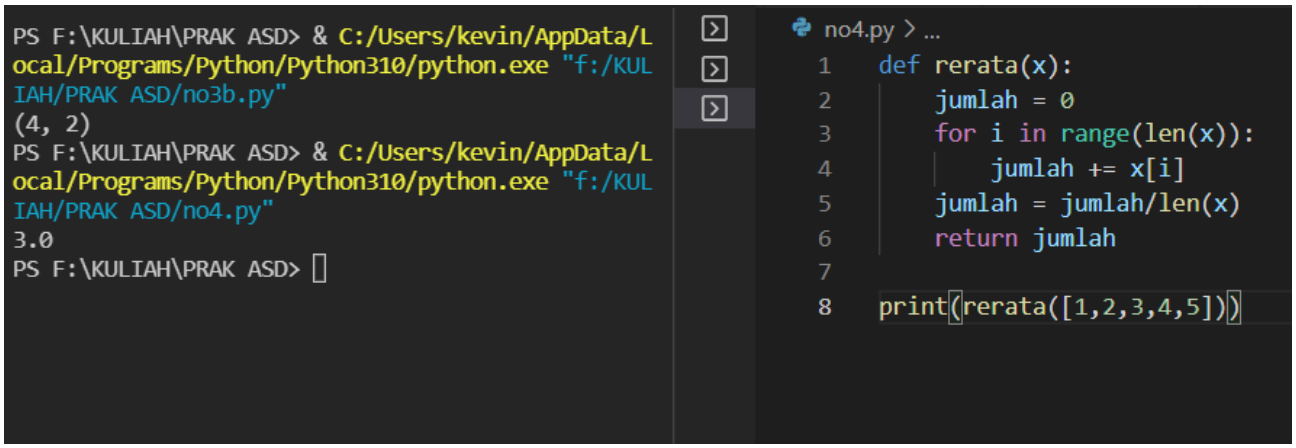
## No 3B



```
PS F:\KULIAH\PRAK ASD> & C:/Users/kevin/AppData/Local/Programs/Python/Python310/python.exe "f:/KULIAH/PRAK ASD/no3b.py"
(4, 2)
PS F:\KULIAH\PRAK ASD>
```

```
no3b.py > ...
1   def jumlahHurufKonsonan(a):
2       konsonan = 'bcdfghjklmnpqrstvwxyzBCDFGHJKLMNPQRSTVWXYZ'
3       x = 0
4       hasil = 0
5       for i in a:
6           if i in konsonan:
7               x += len(i)
8           else:
9               x += 0
10      hasil = len(a),x
11      return hasil
12
13  print(jumlahHurufKonsonan("ayam"))
```

## No 4



```
PS F:\KULIAH\PRAK ASD> & C:/Users/kevin/AppData/Local/Programs/Python/Python310/python.exe "f:/KULIAH/PRAK ASD/no3b.py"
(4, 2)
PS F:\KULIAH\PRAK ASD> & C:/Users/kevin/AppData/Local/Programs/Python/Python310/python.exe "f:/KULIAH/PRAK ASD/no4.py"
3.0
PS F:\KULIAH\PRAK ASD>
```

```
no4.py > ...
1   def rerata(x):
2       jumlah = 0
3       for i in range(len(x)):
4           jumlah += x[i]
5       jumlah = jumlah/len(x)
6       return jumlah
7
8   print(rerata([1,2,3,4,5]))
```

## No 5

```
PS F:\KULIAH\PRAK ASD> & C:/Users/kevin/AppData/Local/Programs/Python/Python310/python.exe "f:/KULIAH/PRAK ASD/no5.py"
True
PS F:\KULIAH\PRAK ASD>
```

no5.py > ...

```python
from math import sqrt as sq

def apakahPrima(n):
    n = int(n) # Kalau pecahan, dibuang pecahannya.
    assert n>=0 # Hanya menerima bilangan non-negatif.
    primaKecil = [2,3,5,7,11] # Kalau angkanya kecil, akan
    bukanPrKecil = [0,1,4,6,8,9,10] # tertangkap di sini.
    if n in primaKecil:
        return True
    elif n in bukanPrKecil:
        return False
    else:
        for i in range(2,int(sq(n))+1):
            if n%i==0:
                return False
            return True

print(apakahPrima(17))
```

## No 6

```
PS F:\KULIAH\PRAK ASD> & C:/Users/kevin/AppData/Local/Programs/Python/Python310/python.exe "f:/KULIAH/PRAK ASD/no5.py"
True
PS F:\KULIAH\PRAK ASD> & C:/Users/kevin/AppData/Local/Programs/Python/Python310/python.exe "f:/KULIAH/PRAK ASD/no6.py"
2
3
5
7
11
13
17
19
23
29
31
37
41
43
47
53
59
61
67
71
73
79
83
89
97
None
PS F:\KULIAH\PRAK ASD>
```

no6.py > ...

```python
def bilanganPrima(x):
    for i in range(2,x):
        prima = True
        for j in range(2,i):
            if(i%j==0):
                prima=False
        if(prima):
            print(i)
print(bilanganPrima(100))
```

## No 7

```
PS F:\KULIAH\PRAK ASD> & C:/Users/kevin/AppData/Local/Programs/Python/Python310/python.exe "f:/KULIAH/PRAK ASD/no7.py"
[2, 5]
PS F:\KULIAH\PRAK ASD>
```

no7.py > faktorisasiprima

```python
def faktorisasiprima(x):

    factorlist=[]
    loop=2
    while loop<=x:
        if x%loop==0:
            x/=loop

            factorlist.append(loop)
        else:
            loop+=1
    return factorlist

print(faktorisasiprima(10))

```

## No 8

```
PS F:\KULIAH\PRAK ASD> & C:/Users/kevin/AppData/Local/Programs/Python/Python310/python.exe "f:/KULIAH/PRAK ASD/no8.py"
False
PS F:\KULIAH\PRAK ASD>
```

no8.py > apakahTerkandung

```python
def apakahTerkandung(a,b):
    # for i in a:
    #     if i in b:
    #         print("True")
    #     else:
    #         print("False")
    y = True
    for i in range(len(b)):
        if a in b:
            y = True
        else:
            y = False
    return y

print(apakahTerkandung("halo","h"))

```

## No 9

```
PS F:\KULIAH\PRAK ASD> & C:/Users/kevin/AppData/Local/Programs/Python/Python310/python.exe "f:/KULIAH/PRAK ASD/no9.py"
1
2
Python
4
UMS
Python
7
8
Python
None
PS F:\KULIAH\PRAK ASD>
```

no9.py > ...

```python
def kelipatan(a):
    for i in range(a):
        if(i<=0):
            pass
        elif(i%3==0 and i%5==0):
            print("Python UMS")
        elif(i%3==0):
            print("Python")
        elif(i%5==0):
            print("UMS")
        else:
            print(i)

print(kelipatan(10))
```

## No 10

```
PS F:\KULIAH\PRAK ASD> & C:/Users/kevin/AppData/Local/Programs/Python/Python310/python.exe "f:/KULIAH/PRAK ASD/no10.py"
Determinan negatif, tidak mempunyai akar real
PS F:\KULIAH\PRAK ASD>
```

no10.py > ...

```python
def selesaikanABC(a,b,c):
    sol = 0
    sol = (b**2)-(4*a*c)

    if sol == 0:
        p(variable) sol: Anynol, Persmaan mempunyai satu akar kembar.')
    elif sol > 0:
        print('Determinan positif, punya akar real dan berlainan.')
    elif sol < 0 :
        print("Determinan negatif, tidak mempunyai akar real ")

selesaikanABC(2,3,4)
```

## No 11

```
PS F:\KULIAH\PRAK ASD> & C:/Users/kevin/AppData/Local/Programs/Python/Python310/python.exe "f:/KULIAH/PRAK ASD/no11.py"
True
PS F:\KULIAH\PRAK ASD>
```

no11.py > ...

```python
def apakahKabisat(tahun):
    hasil = False
    if(tahun%4==0 and tahun%100!=0 and tahun%400!=0):
        hasil =True
    elif(tahun%100!=0 and tahun%400!=0):
        hasil = False
    elif(tahun%400!=0):
        hasil = True
    else:
        hasil = False
    return hasil

print(apakahKabisat(1896))
```

## No 12

```
PS F:\KULIAH\PRAK ASD> & C:/Users/kevin/AppData/Local/Programs/Python/Python310/python.exe "f:/KULIAH/PRAK ASD/no12.py"
masukan tebakan ke- 1:>10
Itu terlalu kecil.Coba lagi
masukan tebakan ke- 2:>20
Itu terlalu kecil.Coba lagi
masukan tebakan ke- 3:>30
Itu terlalu kecil.Coba lagi
masukan tebakan ke- 4:>40
itu terlalu besar.Coba lagi
masukan tebakan ke- 5:>100
itu terlalu besar.Coba lagi
masukan tebakan ke- 6:>60
itu terlalu besar.Coba lagi
masukan tebakan ke- 7:>
```

no12.py > tebak

```python
import random
def tebak():
    x = random.randrange(1,101)
    b = -1
    n =0

    while x != b:
        n += 1
        b = int(input("masukan tebakan ke- "+str(n)+":>"))

        if b<x:
            print('Itu terlalu kecil.Coba lagi')
        elif b>x:
            print("itu terlalu besar.Coba lagi")
        else:
            print("Anda benar")
            break
tebak()
```

# No 13

```
PS F:\KULIAH\PRAK ASD> & C:/Users/kevin/AppData/Local/Programs/Python/Python310/python.exe "f:/KULIAH/PRAK ASD/no13.py"
 Dua Puluh Tiga Ribu
PS F:\KULIAH\PRAK ASD>
```

no13.py > Terbilang

```python
def Terbilang(angka):
    x=["","Satu","Dua","Tiga","Empat","Lima","Enam","Tujuh","Delapan","Sembilan","Sepuluh","Sebelas"]

    Hasil=" "
    n = int(angka)
    if n >= 0 and n <= 11:
        Hasil = Hasil + x[n]
    elif n < 20:
        Hasil = Terbilang(n%10) + " Belas"
    elif n < 200:
        Hasil = Terbilang(n/10) + " Puluh"+Terbilang(n%100)
    elif n < 200:
        Hasil = " Seratus"+Terbilang(n-100)
    elif n < 1000:
        Hasil = Terbilang(n/100) + " Ratus"+Terbilang(n%100)
    elif n < 2000:
        Hasil = "Seribu"+Terbilang(n-1000)
    elif n < 10000:
        Hasil = Terbilang(n/1000) + " Ribu"+Terbilang(n%1000)
    elif n < 20000:
        Hasil = "Sepuluh Ribu"+Terbilang(n-10000)
    elif n < 100000:
        Hasil = Terbilang(n/10000) + " Puluh"+Terbilang(n%10000)
    elif n < 200000:
        Hasil = "Seratus"+Terbilang(n-100000)
    elif n < 1000000:
        Hasil = Terbilang(n/100000) + " Ratus"+Terbilang(n%100000)
    elif n < 2000000:
        Hasil = "Satu juta"+Terbilang(n-1000000)
    elif n < 10000000:
        Hasil = Terbilang(n/1000000) + " Juta"+Terbilang(n%1000000)
    elif n == 10000000:
        Hasil ="Satu Milyar"+Terbilang(n%10000000)
    else:
        Hasil="Angka hanya sampai satu milyar"
    return Hasil

print(Terbilang(23000))
```

# No 14

```
PS F:\KULIAH\PRAK ASD> & C:/Users/kevin/AppData/Local/Programs/Python/Python310/python.exe "f:/KULIAH/PRAK ASD/no14.py"
Rp 2.000.000
PS F:\KULIAH\PRAK ASD>
```

no14.py > ...

```python
def formatrupiah(uang):
    x = str(uang)
    if len(x) <= 3 :
        return 'Rp ' + x
    else :
        p = x[-3:]
        q = x[:-3]
        return   formatrupiah(q) + '.' + p
        print('Rp ' +  formatrupiah(q) + '.' + p)

print(formatrupiah(2000000))
```