

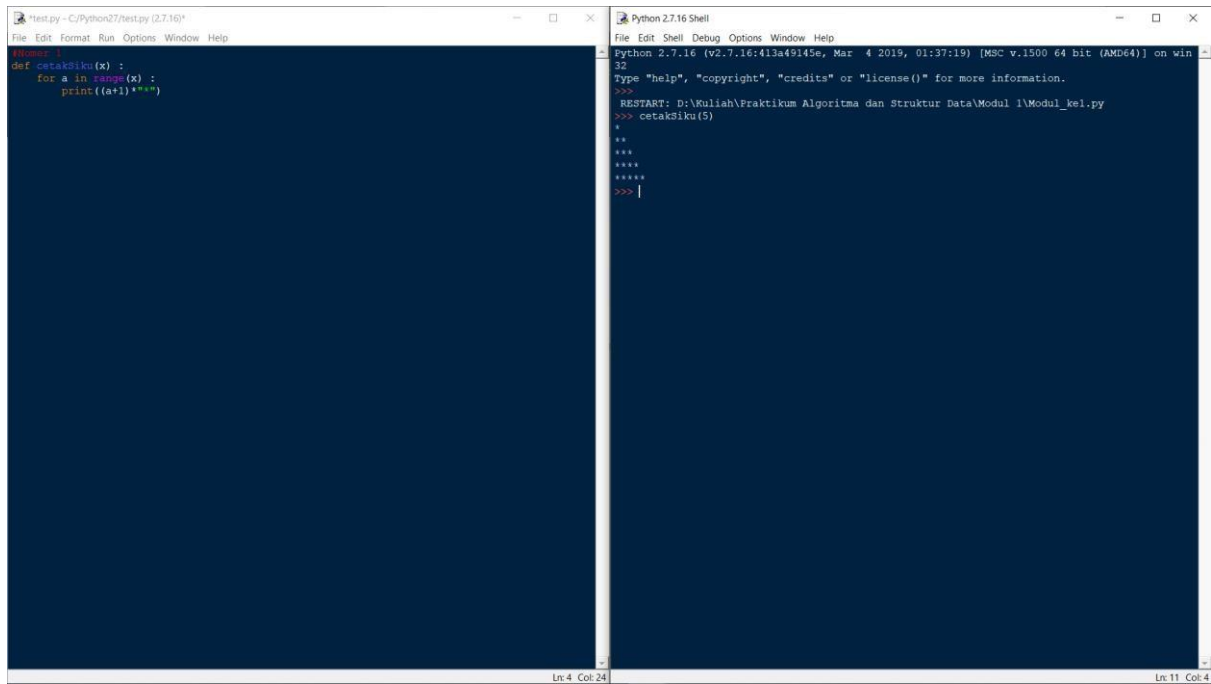
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Kelas : C

LAPORAN PRAKTIKUM ALGORITMA DAN STRUKTUR DATA MODUL 1

Nomer 1



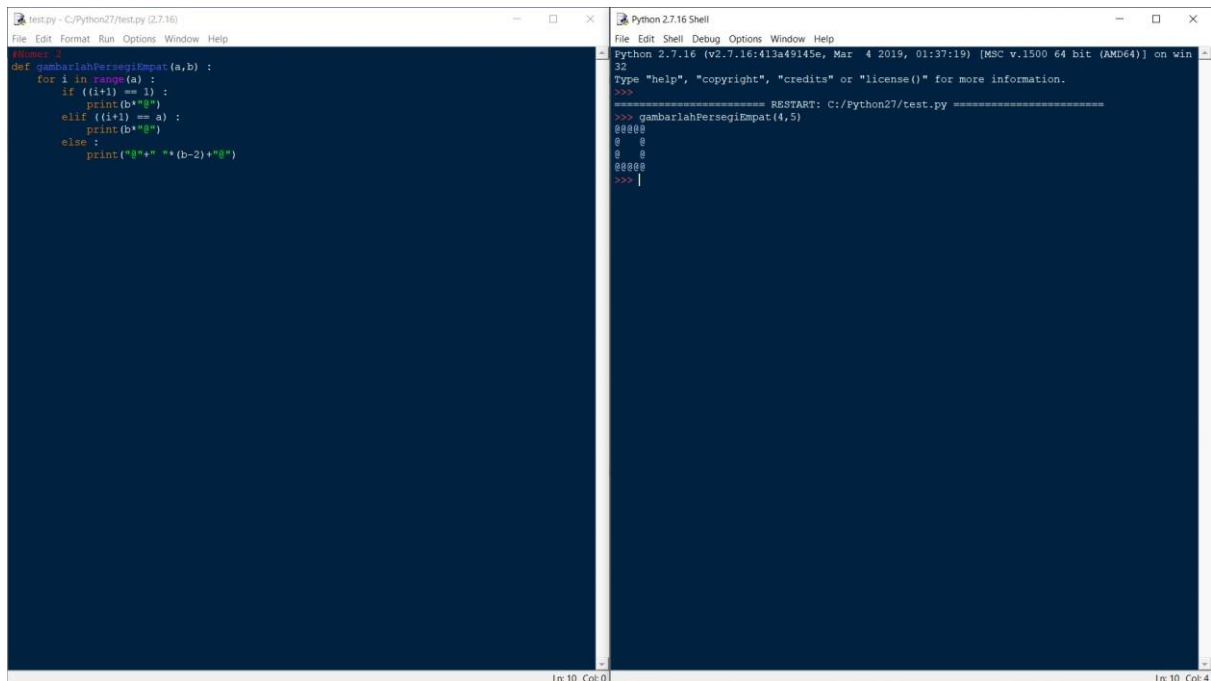
The screenshot shows a Python 2.7.16 IDE with two windows. The left window, titled 'test.py - C:\Python27\test.py (2.7.16)', contains the following code:

```
#Nomer 1
def cetakSiku(x) :
    for a in range(x) :
        print((a+1)*" *")
```

The right window, titled 'Python 2.7.16 Shell', shows the execution of the program. It displays the Python version and the file path, followed by the command to run the script. The output shows a triangle of asterisks:

```
Python 2.7.16 (v2.7.16:413a49145e, Mar  4 2019, 01:37:19) [MSC v.1500 64 bit (AMD64)] on win
Type "help", "copyright", "credits" or "license()" for more information.
>>> RESTART: D:\Wuliah\Praktikum Algoritma dan Struktur Data\Modul 1\Modul_kel.py
>>> cetakSiku(5)
*
* *
* * *
* * * *
* * * * *
```

Nomer 2



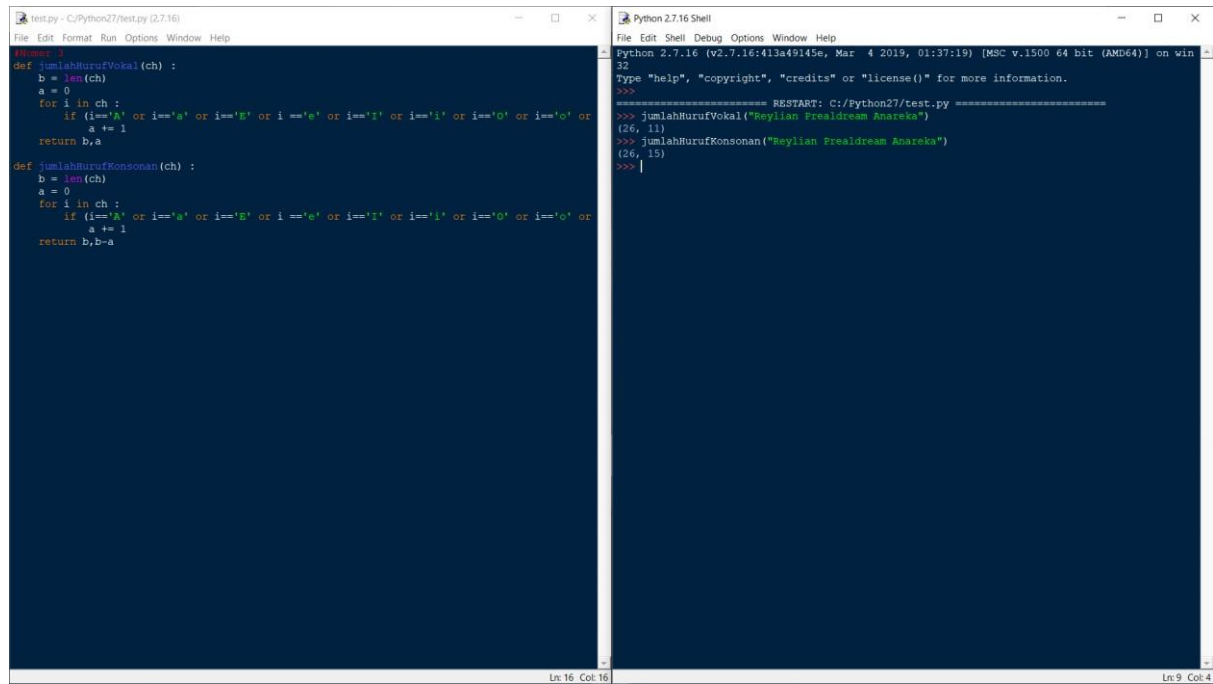
The screenshot shows a Python 2.7.16 IDE with two windows. The left window, titled 'test.py - C:\Python27\test.py (2.7.16)', contains the following code:

```
#Nomer 2
def gambarlahPersegiEmpat(a,b) :
    for i in range(a) :
        if ((i+1) == 1) :
            print(b*" *")
        elif ((i+1) == a) :
            print(b*" *")
        else :
            print(" * "*(b-2) + " *")
```

The right window, titled 'Python 2.7.16 Shell', shows the execution of the program. It displays the Python version and the file path, followed by the command to run the script. The output shows a diamond shape of asterisks:

```
Python 2.7.16 (v2.7.16:413a49145e, Mar  4 2019, 01:37:19) [MSC v.1500 64 bit (AMD64)] on win
Type "help", "copyright", "credits" or "license()" for more information.
>>> RESTART: C:\Python27\test.py
>>> gambarlahPersegiEmpat(4,5)
*****
 *   *
 *   *
 *   *
*****
```

Nomer 3

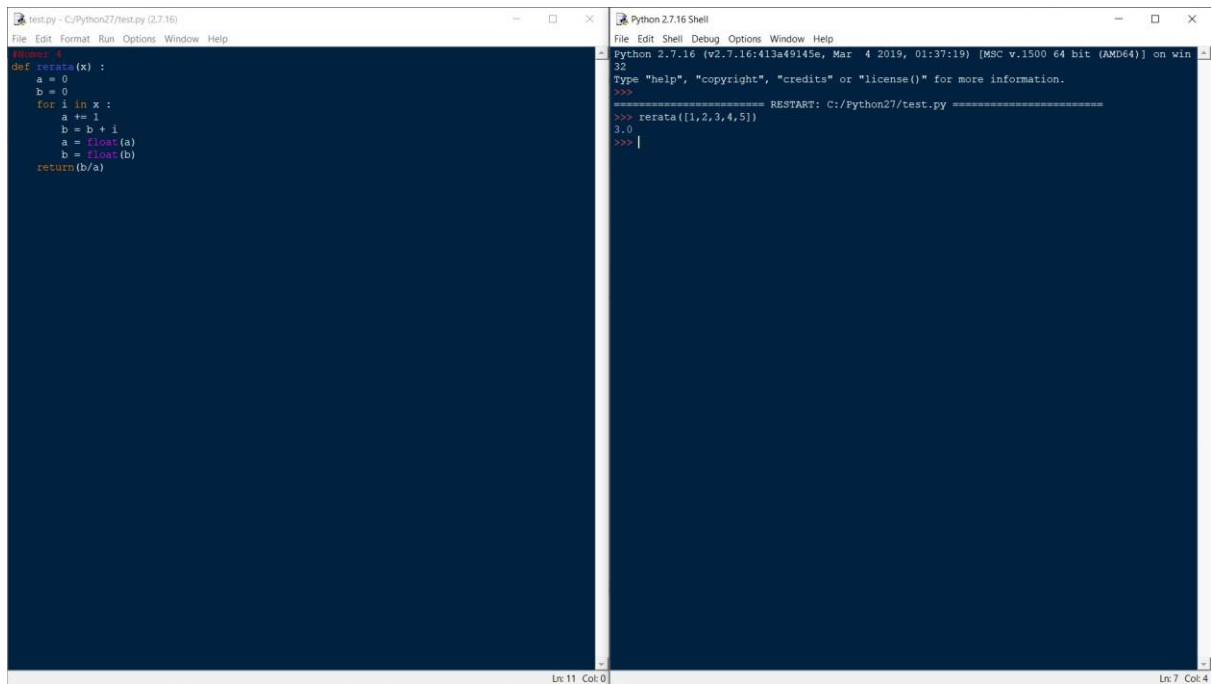


```
test.py - C:\Python27\test.py (2.7.16)
File Edit Format Run Options Window Help
#Nomer 3
def jumlahHurufVokal(ch) :
    b = len(ch)
    a = 0
    for i in ch :
        if (i=='A' or i=='a' or i=='E' or i=='e' or i=='I' or i=='i' or i=='O' or i=='o' or
            a += 1
    return b,a

def jumlahHurufKonsonan(ch) :
    b = len(ch)
    a = 0
    for i in ch :
        if (i=='A' or i=='a' or i=='E' or i=='e' or i=='I' or i=='i' or i=='O' or i=='o' or
            a += 1
    return b,b-a

Python 2.7.16 Shell
File Edit Shell Debug Options Window Help
Python 2.7.16 (v2.7.16:413a49145e, Mar  4 2019, 01:37:19) [MSC v.1500 64 bit (AMD64)] on win
32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
===== RESTART: C:\Python27\test.py =====
>>> jumlahHurufVokal("Reylian Preadream Anareka")
(26, 11)
>>> jumlahHurufKonsonan("Reylian Preadream Anareka")
(26, 15)
>>> |
```

Nomer 4



```
test.py - C:\Python27\test.py (2.7.16)
File Edit Format Run Options Window Help
#Nomer 4
def rerata(x) :
    a = 0
    b = 0
    for i in x :
        a += 1
        b = b + i
    a = float(a)
    b = float(b)
    return(b/a)

Python 2.7.16 Shell
File Edit Shell Debug Options Window Help
Python 2.7.16 (v2.7.16:413a49145e, Mar  4 2019, 01:37:19) [MSC v.1500 64 bit (AMD64)] on win
32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
===== RESTART: C:\Python27\test.py =====
>>> rerata([1,2,3,4,5])
3.0
>>> |
```

Nomer 5

```
test.py - C:/Python27/test.py (2.7.16)
File Edit Format Run Options Window Help
#===== 5
def apakahPrima(a) :
    x = 0
    for i in range(a) :
        if a % (i+1) == 0 :
            x += 1
        if x == 2 :
            print("YA")
        else :
            print("TIDAK")

Python 2.7.16 Shell
File Edit Shell Debug Options Window Help
Python 2.7.16 (v2.7.16:413a49145e, Mar  4 2019, 01:37:19) [MSC v.1500 64 bit (AMD64)] on win
32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
===== RESTART: C:/Python27/test.py =====
>>> apakahPrima(63)
32
TIDAK
>>> apakahPrima(67)
67
YA
>>> |
```

Nomer 6

```
test.py - C:/Python27/test.py (2.7.16)
File Edit Format Run Options Window Help
#===== 6
def cekPrima(i) :
    y = range(1001)
    for i in range(2,1001) :
        x = 0
        for j in range(i) :
            if i % (j+1) == 0 :
                x += 1
        if x == 2 :
            print(i)

Python 2.7.16 Shell
File Edit Shell Debug Options Window Help
Python 2.7.16 (v2.7.16:413a49145e, Mar  4 2019, 01:37:19) [MSC v.1500 64 bit (AMD64)] on win
32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
===== RESTART: C:/Python27/test.py =====
>>> cekPrima()
2
3
5
7
11
13
17
19
23
29
31
37
41
43
47
53
59
61
67
71
73
79
83
89
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101
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983
987
991
993
997
1001
```

Nomer 7

The image shows a Python IDE with two windows. The left window, titled 'test.py - C:/Python27/test.py (2.7.16)', contains the following code:

```
#!/usr/bin/env python
def faktorPrima(x):
    listprima=[]
    prima=2
    while prima<=x:
        if x%prima==0:
            x/=prima
            listprima.append(prima)
        else:
            prima+=1
    return listprima
```

The right window, titled 'Python 2.7.16 Shell', shows the execution of the script. It displays the help text for the 'faktorPrima' function and the output for the call 'faktorPrima(45)', which returns the list [3, 3, 5].

```
Python 2.7.16 (v2.7.16:413a49145e, Mar  4 2019, 01:37:19) [MSC v.1500 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
===== RESTART: C:/Python27/test.py =====
>>> faktorPrima(45)
[3, 3, 5]
>>>
```

Nomer 8

The image shows a Python IDE with two windows. The left window, titled 'test.py - C:/Python27/test.py (2.7.16)', contains the following code:

```
#!/usr/bin/env python
def apakahTerkandung(a,b) :
    if a in b :
        return True
    else :
        return False
```

The right window, titled 'Python 2.7.16 Shell', shows the execution of the script. It displays the help text for the 'apakahTerkandung' function and the output for the calls 'apakahTerkandung("Halo","Darius Halomun")' and 'apakahTerkandung("UMS","Kampus Terbaik di Dunia")', which return True and False respectively.

```
Python 2.7.16 (v2.7.16:413a49145e, Mar  4 2019, 01:37:19) [MSC v.1500 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
===== RESTART: C:/Python27/test.py =====
>>> apakahTerkandung("Halo","Darius Halomun")
True
>>> apakahTerkandung("UMS","Kampus Terbaik di Dunia")
False
>>>
```

Nomer 9

```
test.py - C:/Python27/test.py (2.7.16)
File Edit Format Run Options Window Help
#Nomer 9
def ums(i):
    for i in range(100):
        if (i+1) % 15 == 0:
            print("Python UMS")
        elif (i+1) % 3 == 0:
            print("Python")
        elif (i+1) % 5 == 0:
            print("UMS")
        else:
            print(i+1)

Python 2.7.16 Shell
File Edit Shell Debug Options Window Help
Python 2.7.16 (v2.7.16:413a49145e, Mar  4 2019, 01:37:19) [MSC v.1500 64 bit (AMD64)] on win
Type "help", "copyright", "credits" or "license()" for more information.
>>>
===== RESTART: C:/Python27/test.py =====
>>> ums()
1
2
Python
4
UMS
Python
7
8
Python
UMS
11
Python
13
14
Python UMS
16
17
Python
19
UMS
Python
22
23
Python
UMS
26
Python
28
29
Python UMS
31
32
Python
34
UMS
Python
37
38
Python
UMS
41
Python
43
44
Ln 3 Col: 22
Ln 106 Col: 4
```

Nomer 10

```
test.py - C:/Python27/test.py (2.7.16)
File Edit Format Run Options Window Help
#Nomer 10
def selesaikanABC(a,b,c):
    res = 0
    res = (b**2) - (4*a*c)

    if res == 0:
        print("Determinannya nol. Persamaan mempunyai satu akar kembar.")
    elif res > 0:
        print("Determinannya positif. Persamaan mempunyai akar real dan berlainan.")
    elif res < 0:
        print("Determinannya negatif. Persamaan tidak mempunyai akar real.")

Python 2.7.16 Shell
File Edit Shell Debug Options Window Help
Python 2.7.16 (v2.7.16:413a49145e, Mar  4 2019, 01:37:19) [MSC v.1500 64 bit (AMD64)] on win
Type "help", "copyright", "credits" or "license()" for more information.
>>>
===== RESTART: C:/Python27/test.py =====
>>> selesaikanABC(1,2,3)
Determinannya negatif. Persamaan tidak mempunyai akar real.
>>> selesaikanABC(1,6,3)
Determinannya positif. Persamaan mempunyai akar real dan berlainan.
>>> selesaikanABC(1,4,4)
Determinannya nol. Persamaan mempunyai satu akar kembar.
>>>
```

Nomer 11

```
test.py - C:/Python27/test.py (2.7.16)
File Edit Format Run Options Window Help

#Nomer 11
def apakahKabisat() :
    thn = int(input("Masukkan Tahun : "))
    if thn % 4 == 0 :
        if thn % 100 == 0 :
            if thn % 400 == 0 :
                print(True)
            else :
                print(False)
        else :
            print(True)
    else :
        print(False)

Python 2.7.16 Shell
File Edit Shell Debug Options Window Help

Python 2.7.16 (v2.7.16:413a49145e, Mar  4 2019, 01:37:19) [MSC v.1500 64 bit (AMD64)] on win
32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
===== RESTART: C:/Python27/test.py =====
>>> apakahKabisat()
Masukkan Tahun : 1600
True
>>> apakahKabisat()
Masukkan Tahun : 2100
False
>>> |
```

Nomer 12

```
test.py - C:/Python27/test.py (2.7.16)
File Edit Format Run Options Window Help

#Nomer 12
import random

def tebak() :
    a = random.randrange(1,101)
    b = -1
    n = 0
    print("Permainan tebak angkak.")
    print("Saya menyimpan sebuah angka bulat antara 1 sampai 100. Coba tebak")
    while a != b :
        n = n + 1
        b = int(input("Masukkan tebakan ke-"+str(n)+"> "))
        if b < a :
            print("Itu terlalu kecil. Coba lagi")
        elif b > a :
            print("Itu terlalu besar. Coba lagi")
        else :
            print("Ya. Anda benar.")
            break

Python 2.7.16 Shell
File Edit Shell Debug Options Window Help

Python 2.7.16 (v2.7.16:413a49145e, Mar  4 2019, 01:37:19) [MSC v.1500 64 bit (AMD64)] on win
32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
===== RESTART: C:/Python27/test.py =====
>>> tebak()
Permainan tebak angkak.
Saya menyimpan sebuah angka bulat antara 1 sampai 100. Coba tebak
Masukkan tebakan ke-1> 70
Itu terlalu kecil. Coba lagi
Masukkan tebakan ke-2> 90
Itu terlalu besar. Coba lagi
Masukkan tebakan ke-3> 80
Itu terlalu kecil. Coba lagi
Masukkan tebakan ke-4> 86
Itu terlalu besar. Coba lagi
Masukkan tebakan ke-5> 84
Itu terlalu besar. Coba lagi
Masukkan tebakan ke-6> 82
Itu terlalu besar. Coba lagi
Masukkan tebakan ke-7> 81
Ya. Anda benar.
>>>
```

Nomer 13

```
test.py - C:\Python27\test.py (2.7.16)
File Edit Format Run Options Window Help

#Nomer 13
def katakan(x):
    satuan = ['','satu','dua','tiga','empat','lima','enam','tujuh','delapan','semb
    hasil = ""
    if x <= 0:
        hasil += 'Bilangan Haruslah Positif\ndan Bilangan Asli'
    elif x < 12:
        hasil += satuan[x]
    elif x < 20:
        hasil += katakan(x-10) + " belas "
    elif x < 100:
        hasil += katakan(int(x/10)) + " puluh " + katakan(x%10)
    elif x < 200:
        hasil += "seratus " + katakan(x-100)
    elif x < 1000:
        hasil += katakan(int(x/100)) + " ratus " + katakan(x%100)
    elif x < 2000:
        hasil += "seribu " + katakan(x-1000)
    elif x < 1000000:
        hasil += katakan(int(x/1000)) + " ribu " + katakan(x%1000)
    elif x < 1000000000:
        hasil += katakan(int(x/1000000)) + " juta " + katakan(x%1000000)
    elif x >= 1000000000:
        hasil += katakan(int(x/1000000000)) + " milyar " + katakan(x%1000000000)

Python 2.7.16 Shell
File Edit Shell Debug Options Window Help

Python 2.7.16 (v2.7.16:413a49145e, Mar  4 2019, 01:37:19) [MSC v.1500 64 bit (AMD64)] on win
32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
RESTART: D:\Kuliah\Praktikum Algoritma dan Struktur Data\Modul 1\Modul_kel.py
>>> katakan(1234567)
'satu juta dua ratus tiga puluh empat ribu lima ratus enam puluh tujuh'
>>> katakan(123456789)
'seratus dua puluh tiga juta empat ratus lima puluh enam ribu tujuh ratus delapan puluh sem
bilan'
>>> |
```

Nomer 14

```
test.py - C:\Python27\test.py (2.7.16)
File Edit Format Run Options Window Help

#Nomer 14
def formatRupiah(a):
    a = list(str(a))
    b = len(a)
    if b % 3 == 0:
        b = int(b/3) - 1
    else:
        b = int(b/3)
    n = 0
    for i in range(b):
        x = -3*(i+1)
        a.insert(int(x)+n, ",")
        n = n - 1
    a = "".join(a)
    print("Rp. "+a)

Python 2.7.16 Shell
File Edit Shell Debug Options Window Help

Python 2.7.16 (v2.7.16:413a49145e, Mar  4 2019, 01:37:19) [MSC v.1500 64 bit (AMD64)] on win
32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
===== RESTART: C:\Python27\test.py =====
>>> formatRupiah(12500000)
Rp 12.500.000
>>> formatRupiah(12400)
Rp 12.400
>>> |
```