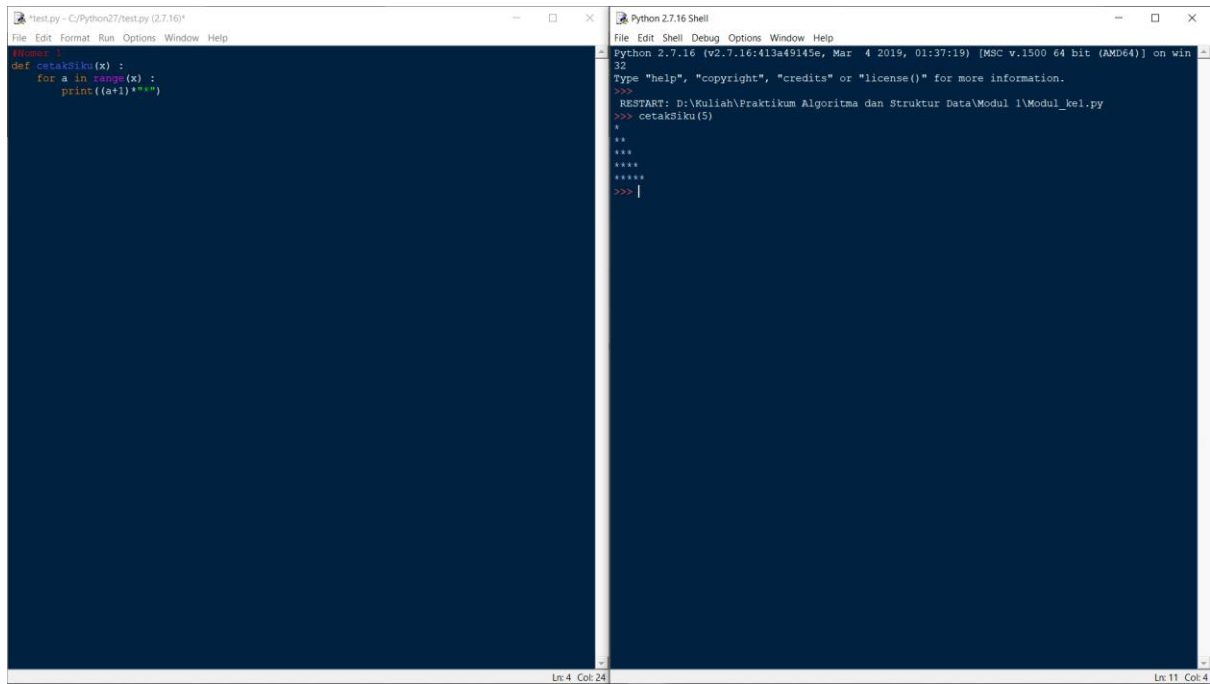


LAPORAN PRAKTIKUM
ALGORITMA DAN STRUKTUR DATA
MODUL 1

REYLIAN PREALDREAM ANAREKA
L200180087
KELAS D

Nomer 1



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

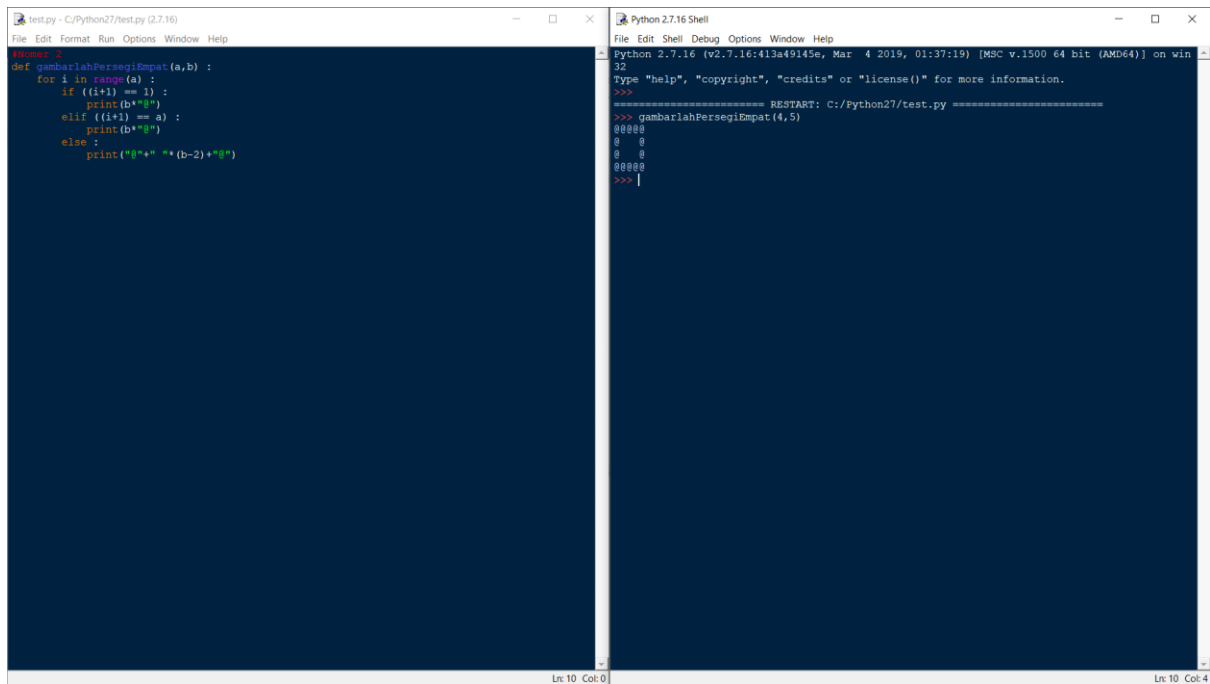
```
#!/usr/bin/python
def cetakSiku(x) :
    for a in range(x) :
        print((a+1)*" ")
```

The right window, titled 'Python 2.7.16 Shell', shows the execution of the code:

```
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: D:\Kuliah\Praktikum Algoritma dan Struktur Data\Modul 1\Modul_kel.py
>>> cetakSiku(5)
+
++
+++
++++
*****
>>> |
```

The status bar at the bottom indicates 'Ln 4 Col: 24' for the left window and 'Ln 11 Col: 4' for the right window.

Nomer 2



The screenshot 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/python
def gambarlahPersegiEmpat(a,b) :
    for i in range(a) :
        if ((i+1) == 1) :
            print(b*"0")
        elif ((i+1) == a) :
            print(b*"0")
        else :
            print("0"+" "*(b-2)+"0")
```

The right window, titled 'Python 2.7.16 Shell', shows the execution of the code:

```
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
>>> gambarlahPersegiEmpat(4,5)
00000
0  0
0  0
00000
>>> |
```

The status bar at the bottom indicates 'Ln 10 Col: 0' for the left window and 'Ln 10 Col: 4' for the right window.

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 i=='u' or i=='U') :
            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 i=='u' or i=='U') :
            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 Frealdream Anareka")
(26, 11)
>>> jumlahHurufKonsonan("Reylian Frealdream Anareka")
(26, 15)
>>> |
```

Nomer 4

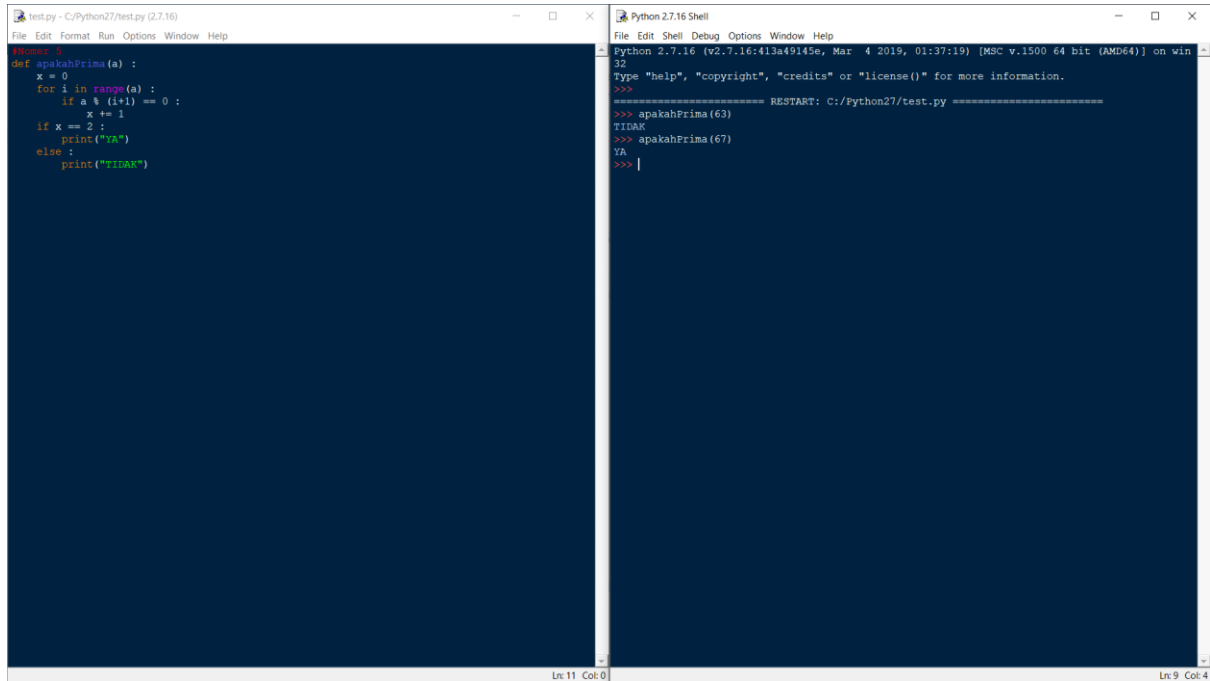
```
test.py - C:/Python27/test.py (2.7.16)
File Edit Format Run Options Window Help

#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



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

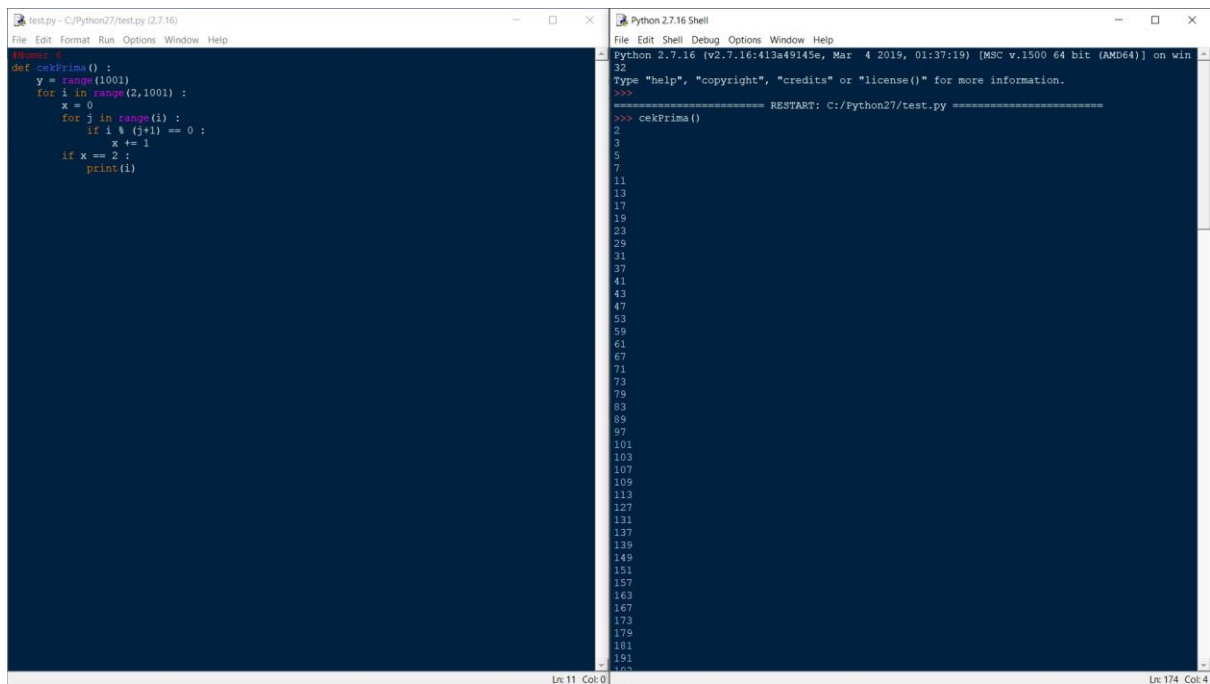
```
#Nomer 5
def apakahPrima(a) :
    x = 0
    for i in range(a) :
        if a % (i+1) == 0 :
            x += 1
    if x == 2 :
        print("YA")
    else :
        print("TIDAK")
```

The right window, titled 'Python 2.7.16 Shell', shows the output of running the script:

```
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 =====
>>> apakahPrima(63)
TIDAK
>>> apakahPrima(67)
YA
>>> [
```

At the bottom of the windows, the cursor positions are indicated: 'Ln 11 Col: 0' for the editor and 'Ln: 9 Col: 4' for the shell.

Nomer 6



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

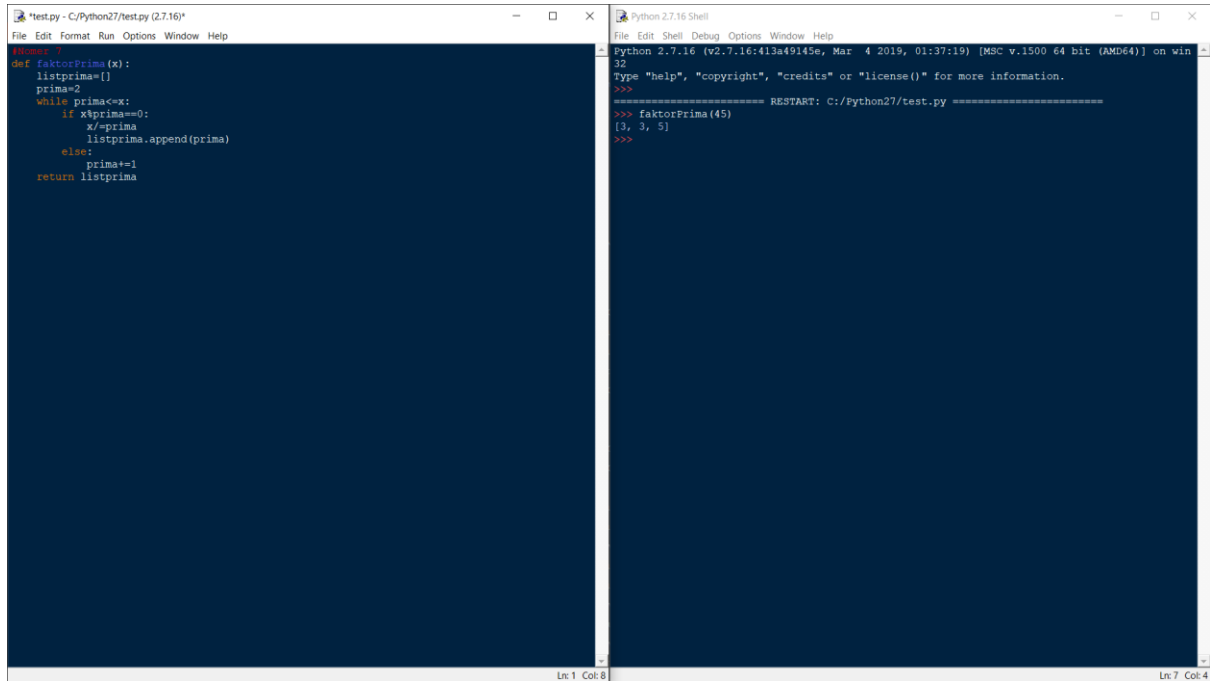
```
#Nomer 6
def cekPrima(i) :
    y = range(1001)
    for i in range(2,1001) :
        x = 0
        for j in range(i) :
            if i % (j+1) == 0 :
                x += 1
        if x == 2 :
            print(i)
```

The right window, titled 'Python 2.7.16 Shell', shows the output of running the script:

```
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 =====
>>> 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
97
101
103
107
109
113
127
131
137
139
149
151
157
163
167
173
179
181
191
193
```

At the bottom of the windows, the cursor positions are indicated: 'Ln 11 Col: 0' for the editor and 'Ln: 174 Col: 4' for the shell.

Nomer 7

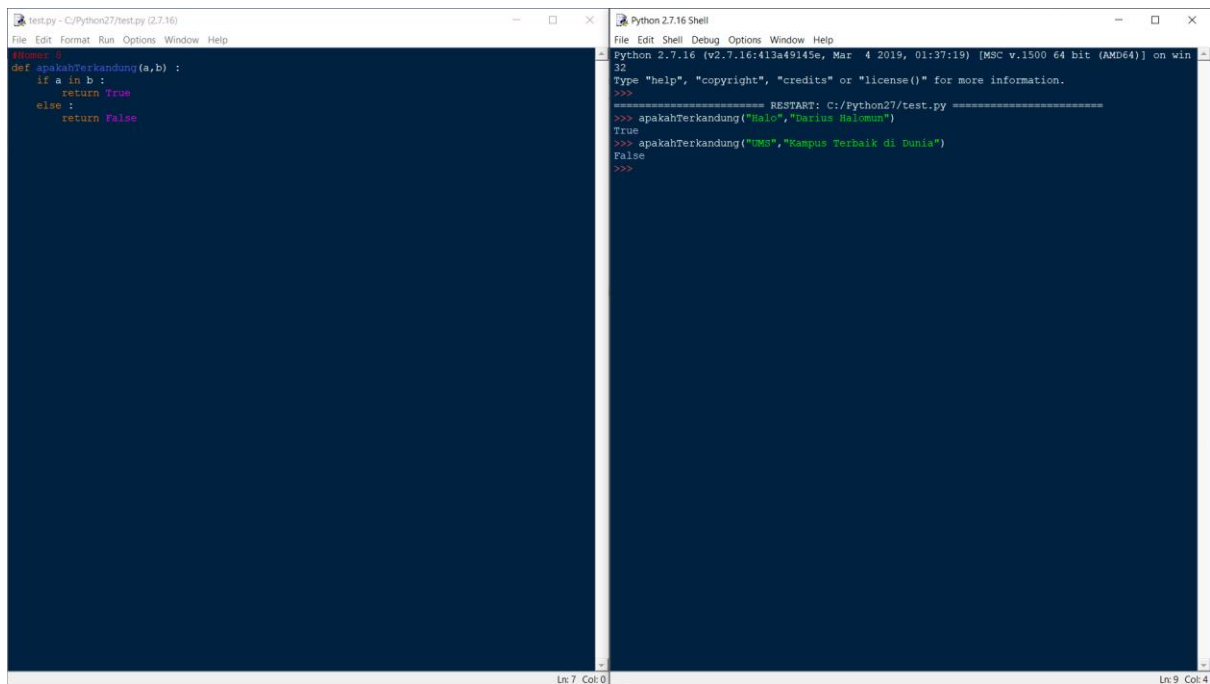


The screenshot displays a Python IDE with two windows. The left window, titled 'test.py - C:/Python27/test.py (2.7.16)', contains a function `faktorPrima(x)` that finds the prime factors of a number `x`. The function initializes an empty list `listprima` and a variable `prima` to 2. It enters a `while` loop where `prima` is less than or equal to `x`. Inside the loop, if `x` is divisible by `prima` (checked with `x%prima==0`), `prima` is added to `listprima` and `x` is divided by `prima`. Otherwise, `prima` is incremented by 1. The function returns `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, followed by a restart command. The function is then called with `faktorPrima(45)`, which returns the list `[3, 3, 5]`.

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

```
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 =====  
>>> faktorPrima(45)  
[3, 3, 5]  
>>>
```

Nomer 8

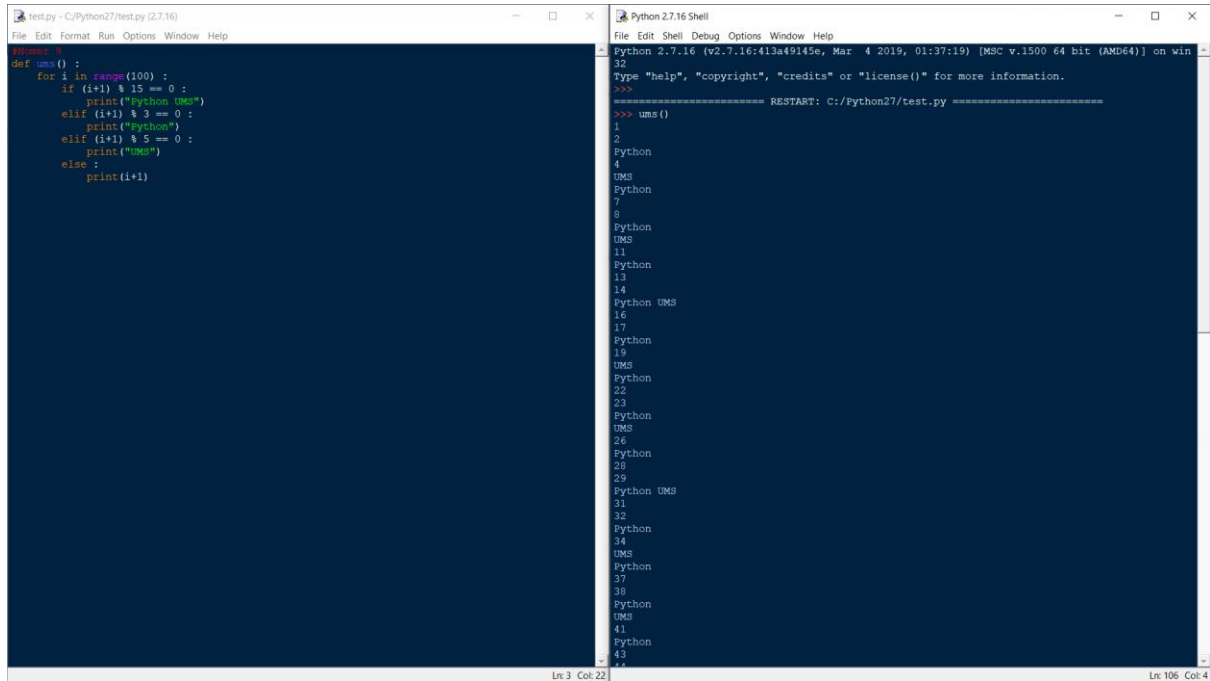


The screenshot displays a Python IDE with two windows. The left window, titled 'test.py - C:/Python27/test.py (2.7.16)', contains a function `apakahTerkandung(a,b)` that checks if string `a` is a substring of string `b`. The function returns `True` if `a` is in `b`, and `False` otherwise. The right window, titled 'Python 2.7.16 Shell', shows the execution of the script. It displays the help text for the `apakahTerkandung` function, followed by a restart command. The function is then called with `apakahTerkandung("Halo", "Darius Halomun")`, which returns `True`, and `apakahTerkandung("UMG", "Kampus Terbaik di Dunia")`, which returns `False`.

```
def apakahTerkandung(a,b) :  
    if a in b :  
        return True  
    else :  
        return False
```

```
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 =====  
>>> apakahTerkandung("Halo", "Darius Halomun")  
True  
>>> apakahTerkandung("UMG", "Kampus Terbaik di Dunia")  
False  
>>>
```

Nomer 9

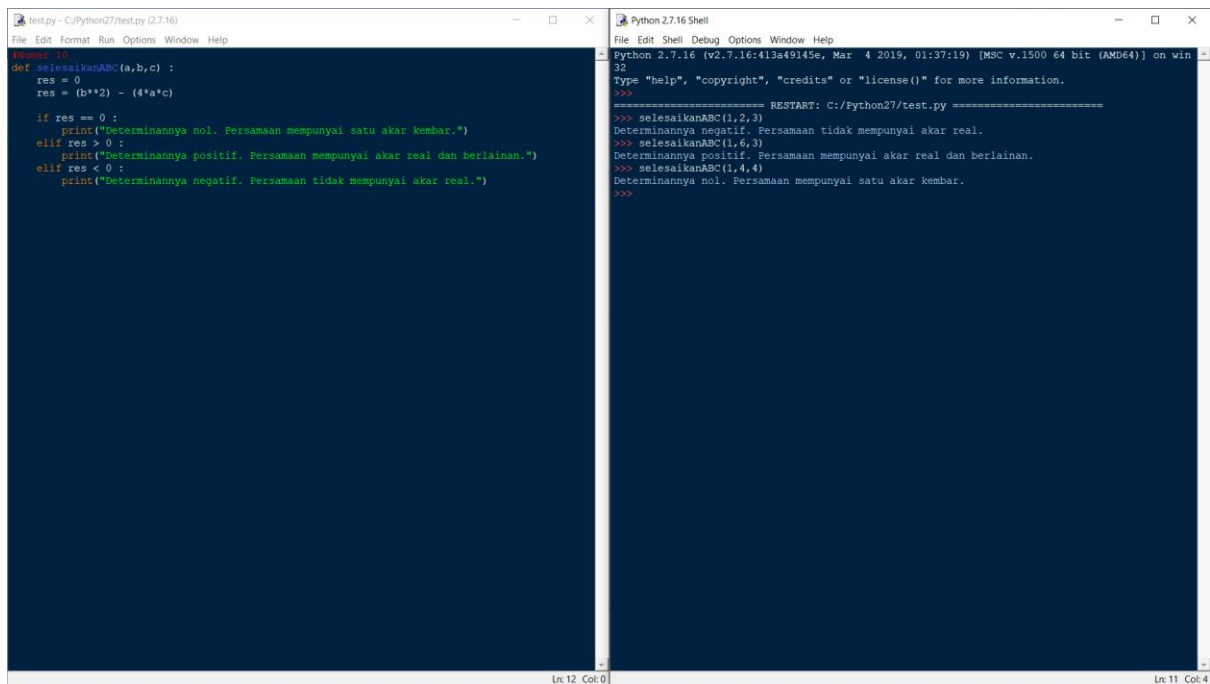


```
test.py - C:/Python27/test.py (2.7.16)
File Edit Format Run Options Window Help

#Nomer 9
def ums():
    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.
>>>
Ln 12 Col 0
Ln 11 Col 4
```

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 : 2000
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 angkat.")
    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 angkat.
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','sembil']
    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
ilan'
>>> ]

Ln 25 Col: 0
Ln 9 Col: 4
```

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(125000000)
Rp 12.500.000
>>> formatRupiah(12400)
Rp 12.400
>>> ]

Ln 16 Col: 0
Ln 9 Col: 4
```