

Praktikum Algostruk

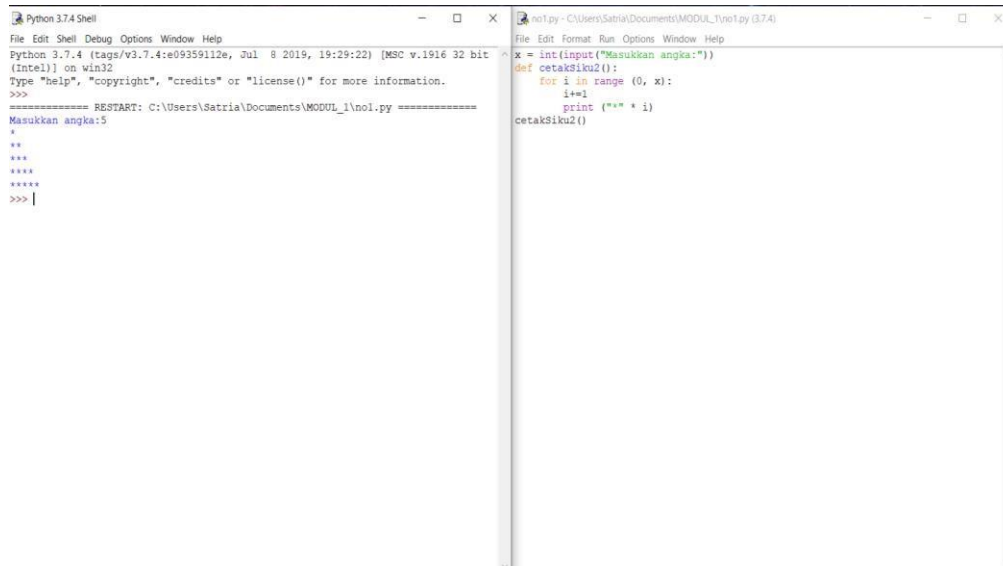
Modul 1

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Kelas : A

1.



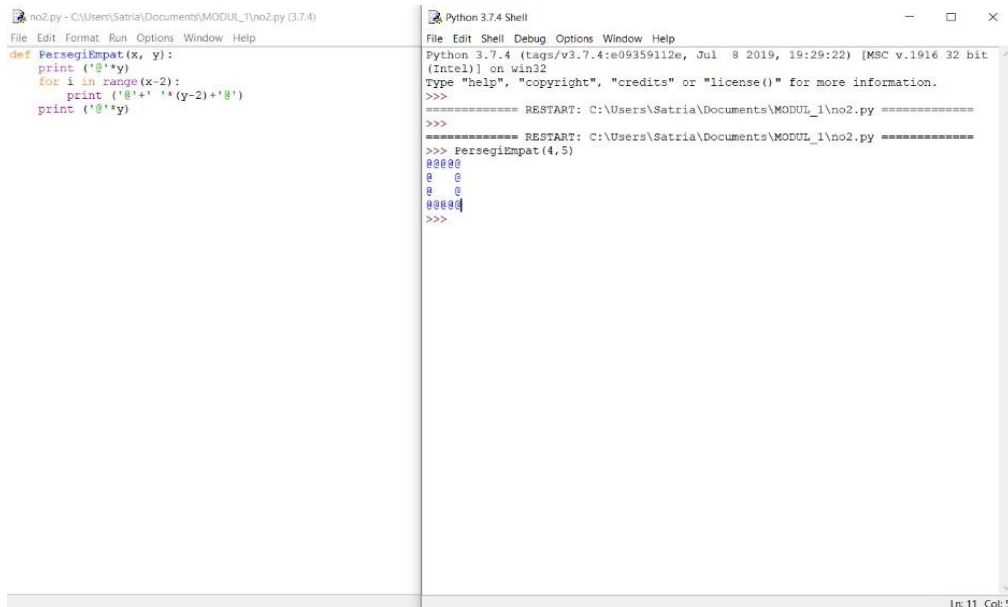
The screenshot shows two windows from a Python 3.7.4 IDE. The left window is the 'Python 3.7.4 Shell' with the following content:

```
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: C:\Users\Satria\Documents\MODUL_1\nol.py =====
Masukkan angka:5
*
***
*****
>>> |
```

The right window is the 'no1.py - C:\Users\Satria\Documents\MODUL_1\no1.py (3.7.4)' editor with the following code:

```
File Edit Format Run Options Window Help
x = int(input("Masukkan angka:"))
def cetakSiku2():
    for i in range(0, x):
        i+=1
        print ("*" * i)
    cetakSiku2()
```

2.



The screenshot shows two windows from a Python 3.7.4 IDE. The left window is the 'no2.py - C:\Users\Satria\Documents\MODUL_1\no2.py (3.7.4)' editor with the following code:

```
File Edit Format Run Options Window Help
def PersegiEmpat(x, y):
    print ('@'*y)
    for i in range(x-2):
        print ('@'*x+' '*(y-2)+'@')
    print ('@'*y)
```

The right window is the 'Python 3.7.4 Shell' with the following content:

```
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: C:\Users\Satria\Documents\MODUL_1\no2.py =====
>>>
===== RESTART: C:\Users\Satria\Documents\MODUL_1\no2.py =====
>>> PersegiEmpat(4,5)
@@@@
@  @
@  @
@@@@
>>>
```

3.

The screenshot shows a Python 3.7.4 IDE with two windows. The left window, titled 'no3.py - C:\Users\Satria\Documents\MODUL_1\no3.py (3.7.4)', contains the following code:

```
def jumlahHurufVokal(x):  
    total = 0  
    vokal = ["a","i","u","e","o"]  
    for k in x:  
        if k in vokal:  
            total+=1  
    return [len(x),total]  
  
x=jumlahHurufVokal("satria")  
print (x)
```

The right window, titled 'Python 3.7.4 Shell', shows the output of the script:

```
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: C:\Users\Satria\Documents\MODUL_1\no3.py =====  
[6, 3]  
>>>
```

The status bar at the bottom right indicates 'Ln: 6 Col: 4'.

3.b

The screenshot shows a Python 3.7.4 IDE with two windows. The left window, titled 'no3b.py - C:\Users\Satria\Documents\MODUL_1\no3b.py (3.7.4)', contains the following code:

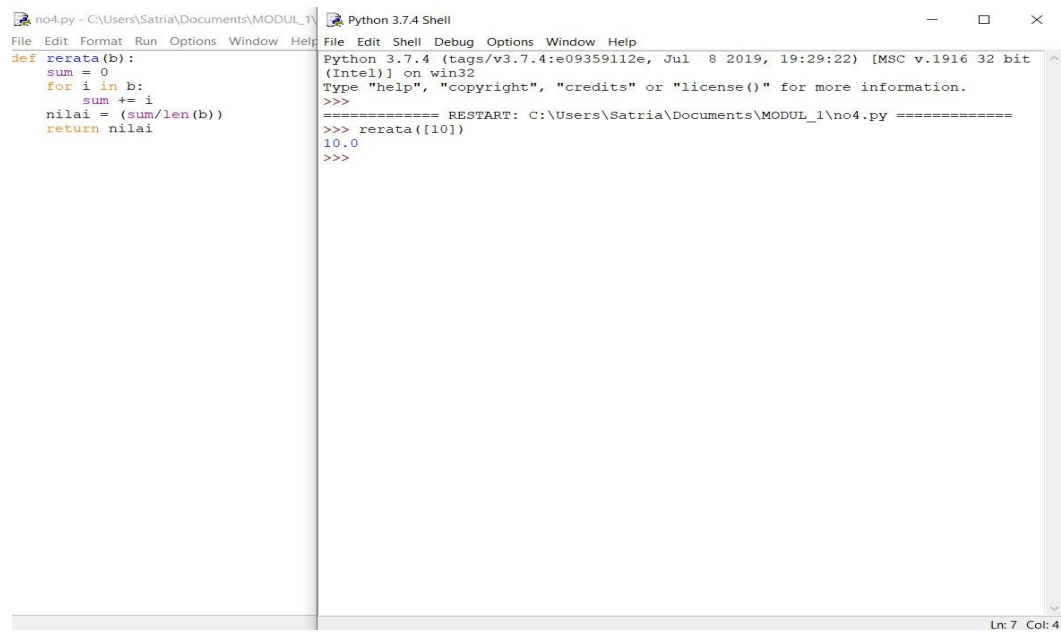
```
def jumlahHurufKonsonan(x):  
    total = 0  
    vokal = ["a","i","u","e","o"]  
    for i in x:  
        if i in vokal:  
            total+=1  
    return [len(x), len(x)-total]  
  
i=jumlahHurufKonsonan("satria")  
print(i)
```

The right window, titled 'Python 3.7.4 Shell', shows the output of the script:

```
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: C:\Users\Satria\Documents\MODUL_1\no3b.py =====  
[6, 3]  
>>> |
```

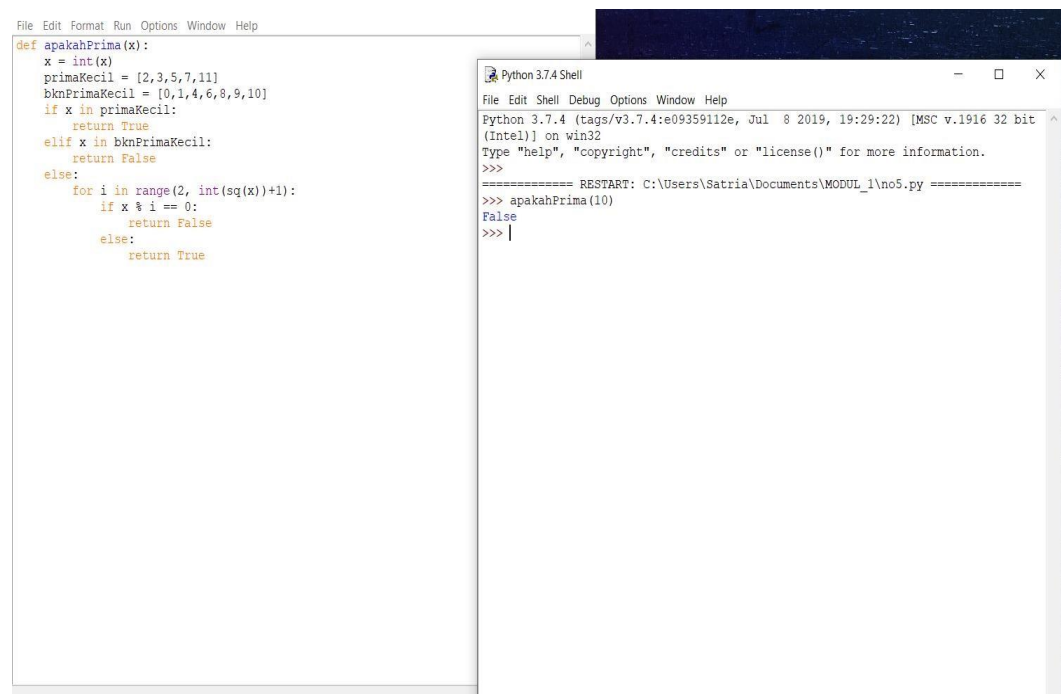
The status bar at the bottom right indicates 'Ln: 6 Col: 4'.

4.



```
no4.py - C:\Users\Satria\Documents\MODUL_1 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: C:\Users\Satria\Documents\MODUL_1\no4.py =====
>>> rerata([10])
10.0
>>>
```

5.



```
File Edit Format Run Options Window Help
def apakahPrima(x):
    x = int(x)
    primaKecil = [2,3,5,7,11]
    bknPrimaKecil = [0,1,4,6,8,9,10]
    if x in primaKecil:
        return True
    elif x in bknPrimaKecil:
        return False
    else:
        for i in range(2, int(sq(x))+1):
            if x % i == 0:
                return False
            else:
                return True

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: C:\Users\Satria\Documents\MODUL_1\no5.py =====
>>> apakahPrima(10)
False
>>> |
```

6.

```
no6.py - C:\Users\Satria\Documents\MODUL_1\no6.py (3.7.4)
File Edit Format Run Options Window Help
from math import sqrt as sq
def apaPrima(n):
    n = int(n)
    assert n>=0
    primaKecil = [2,3,5,7,11]
    bukanPrKecil = [0,1,4,6,8,9,10]
    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
            break
        else:
            return True
for i in range (2,1001):
    print(str(i)+" "+str(apaPrima(i)))

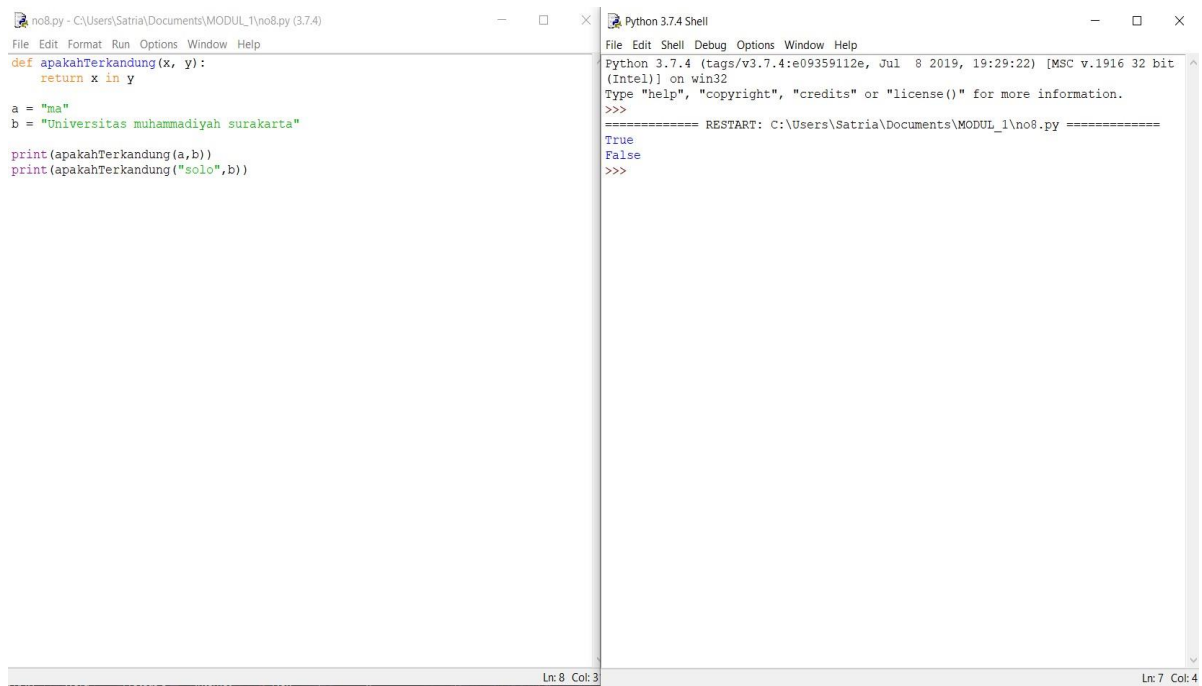
Python 3.7.4 Shell
File Edit Shell Debug Options Window Help
Python 3.7.4 (tags/v3.7.4:e09359112e, Jul 8 2019, 19:29:22) [MSC v.1916 32 bit
(Intel)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
===== RESTART: C:\Users\Satria\Documents\MODUL_1\no6.py =====
2 True
3 True
4 False
5 True
6 False
7 True
8 False
9 False
10 False
11 True
12 False
13 True
14 False
15 False
16 False
17 True
18 False
19 True
20 False
21 False
22 False
23 True
24 False
25 False
26 False
27 False
28 False
29 True
30 False
31 True
32 False
33 False
34 False
35 False
36 False
```

7.

```
no7.py - C:\Users\Satria\Documents\MODUL_1\no7.py
File Edit Format Run Options Window Help
def faktorprima(x):
    faktor=[]
    loop=2
    while loop<=x:
        if x%loop==0:
            x/=loop
            faktor.append(loop)
        else:
            loop+=1
    return faktor

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: C:\Users\Satria\Documents\MODUL_1\no7.py =====
>>> faktorprima(69)
[3, 23]
>>> |
```

8.



The screenshot shows a Python IDE with two windows. The left window, titled 'no8.py - C:\Users\Satria\Documents\MODUL_1\no8.py (3.7.4)', contains the following code:

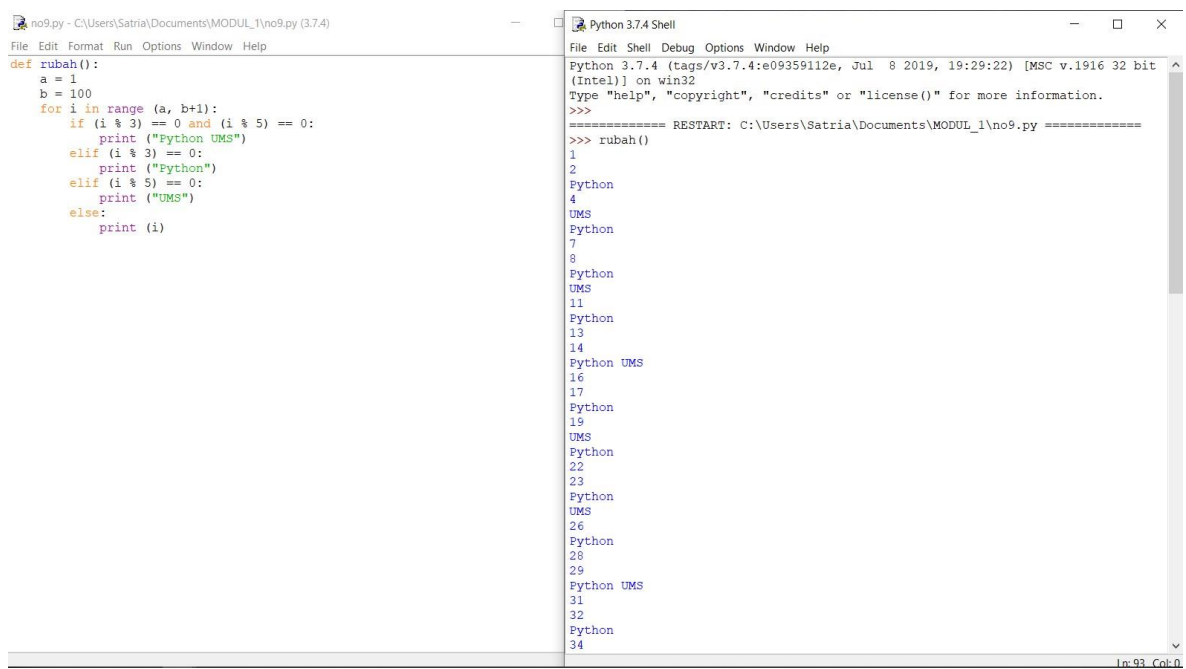
```
def apakahTerkandung(x, y):  
    return x in y  
  
a = "ma"  
b = "Universitas muhammadiyah surakarta"  
  
print(apakahTerkandung(a,b))  
print(apakahTerkandung("solo",b))
```

The right window, titled 'Python 3.7.4 Shell', shows the output of the script:

```
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: C:\Users\Satria\Documents\MODUL_1\no8.py =====  
True  
False  
>>>
```

The status bar at the bottom indicates 'Ln: 8 Col: 3' for the script and 'Ln: 7 Col: 4' for the shell.

9.



The screenshot shows a Python IDE with two windows. The left window, titled 'no9.py - C:\Users\Satria\Documents\MODUL_1\no9.py (3.7.4)', contains the following code:

```
def rubah():  
    a = 1  
    b = 100  
    for i in range(a, b+1):  
        if (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)
```

The right window, titled 'Python 3.7.4 Shell', shows the output of the script:

```
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: C:\Users\Satria\Documents\MODUL_1\no9.py =====  
>>> rubah()  
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
```

The status bar at the bottom indicates 'Ln: 93 Col: 0' for the shell.

10.

The screenshot shows a Python 3.7.4 IDE with two windows. The left window displays the execution output of a script, and the right window shows the source code of the script.

Left Window (Output):

```
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: C:\Users\Satria\Documents\MODUL_1\no10.py =====
>>> selesaikanABC(1,12,123)
'Determinannya negatif. Persamaan tidak mempunyai akar real'
>>>
```

Right Window (Source Code):

```
no10.py - C:\Users\Satria\Documents\MODUL_1\no10.py (3.7.4)
File Edit Format Run Options Window Help
def selesaikanABC(a, b, c):
    a=float(a)
    b=float(b)
    c=float(c)
    D=(b**2) - (4*a*c)
    if D<0:
        return "Determinannya negatif. Persamaan tidak mempunyai akar real"
    else:
        x1=(-b + sq(D))/2*a
        x2=(-b - sq(D))/2*a
        hasil=(x1, x2)
        return hasil
```

11.

The screenshot shows a Python 3.7.4 IDE with two windows. The left window displays the source code of a script, and the right window shows the execution output.

Left Window (Source Code):

```
no11.py - C:\Users\Satria\Documents\MODUL_1\no11.py (3.7.4)
File Edit Format Run Options Window Help
def apakahKabisat(x):
    if (x % 4) == 0 and (x % 100) == 0 and (x % 400) != 0:
        return False
    elif (x % 4) == 0:
        return True
    else:
        return False
```

Right Window (Output):

```
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: C:\Users\Satria\Documents\MODUL_1\no11.py =====
>>> apakahKabisat(2020)
True
>>> |
```

12.

The screenshot shows a Python 3.7.4 IDE with two windows. The left window, titled 'no12.py', contains a script for a number guessing game. The script imports the 'random' module, generates a random number 'a' between 1 and 100, and enters a loop where the user is prompted to guess. The script provides feedback on whether the guess is correct, too high, or too low, and allows for multiple attempts. The right window, titled 'Python 3.7.4 Shell', shows the execution of the script. It displays the program's output, including the random number generated and the user's guesses with corresponding feedback messages.

```
no12.py - C:\Users\Satria\Documents\MODUL_1\no12.py (3.7.4)
File Edit Format Run Options Window Help
import random
print("""Permainan tebak angka.
Saya menyimpan sebuah angka bulat antara 1 sampai 100. Coba Tebak!""")
a = random.randint(1, 100)
for i in range(3):
    b = int(input("Masukkan tebakan ke-{:}>".format(i+1)))
    if b == a:
        print ("Ya. Anda benar.")
    elif b > a:
        print ("Itu terlalu besar. Kesempatan habis. Nilainya adalah")
    else:
        print ("Itu terlalu besar. Coba lagi")
    else:
        if i >= 2:
            print ("Itu terlalu kecil. Kesempatan habis. Nilainya adalah")
        else:
            print ("Itu terlalu kecil. Coba lagi")

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: C:\Users\Satria\Documents\MODUL_1\no12.py =====
Permainan tebak angka.
Saya menyimpan sebuah angka bulat antara 1 sampai 100. Coba Tebak!
Masukkan tebakan ke-1:>10
Itu terlalu kecil. Coba lagi
Masukkan tebakan ke-2:>5
Itu terlalu kecil. Coba lagi
Masukkan tebakan ke-3:>1
Itu terlalu kecil. Kesempatan habis. Nilainya adalah 84
>>>
```

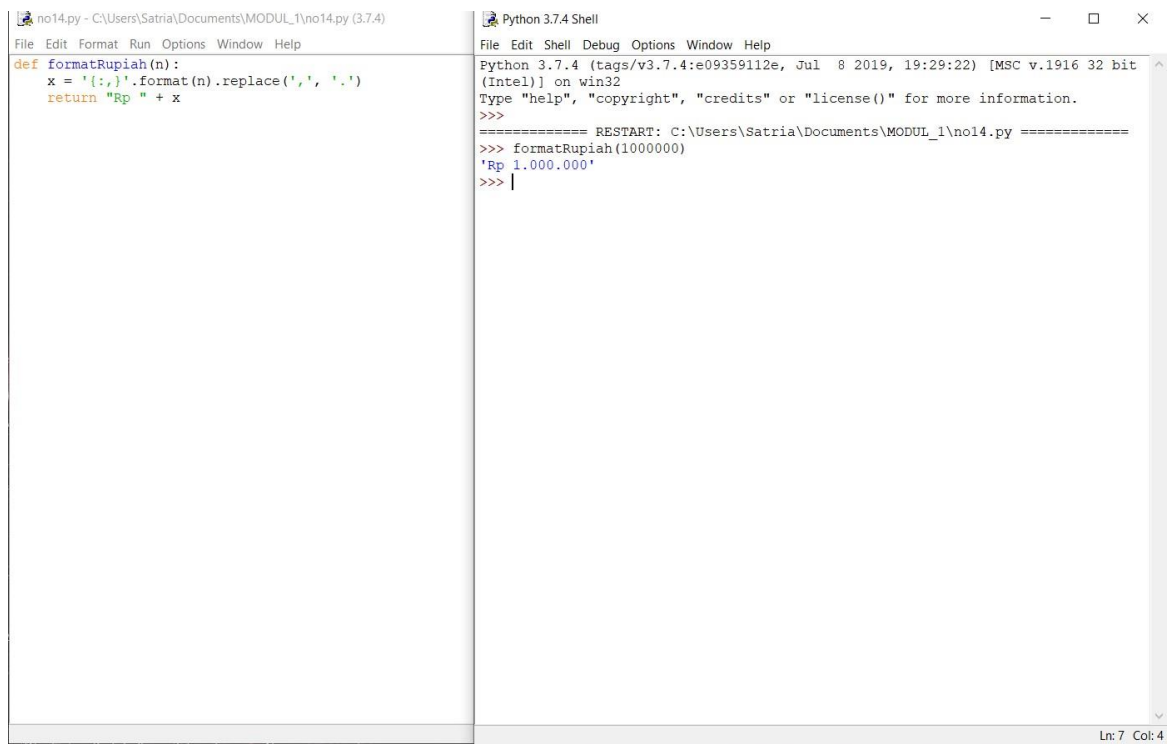
13.

The screenshot shows a Python 3.7.4 IDE with two windows. The left window, titled 'no13.py', contains a script that converts a given number into its Indonesian word representation. The script defines a list of words for numbers 1 through 10, and then uses a loop to process the digits of the input number, appending the corresponding words to a list. The right window, titled 'Python 3.7.4 Shell', shows the execution of the script. It displays the input number and the resulting word representation.

```
no13.py - C:\Users\Satria\Documents\MODUL_1\no13.py (3.7.4)
File Edit Format Run Options Window Help
def katakan(angka):
    satuan = ["satu", "dua", "tiga", "empat", "lima",
              "enam", "tujuh", "delapan", "sembilan", "sepuluh",
              "sebelas", "dua belas", "tiga belas", "empat belas", "lima bel
              "enam belas", "tujuh belas", "delapan belas", "sembilan belas"]
    angka = '{:0,.0f}'.format(int(angka))
    angka = angka.split(",")
    katakan = []
    idx = 1
    for x in angka[::-1]:
        seribu = False
        if idx == 2 and x[-1]!="0":
            if int(x)< 2 :
                katakan.append("seribu")
                seribu = True
            else:
                katakan.append("ribu")
        if idx == 3 and x[-1]!="0":
            katakan.append("juta")
        if seribu == False:
            if int(x[-2:])<20 and int(x[-2:])>0:
                katakan.append(satuan[int(x[-2:])-1])
            elif int(x[-2:])>0:
                if int(x[-1])!=0:
                    katakan.append(satuan[int(x[-1])-1])
                if int(x[-2]) != 0:
                    katakan.append(satuan[int(x[-2])-1]+" puluh")
        if int(x[0]) > 2 and len(x)==3 :
            katakan.append(satuan[int(x[0])-1]+" ratus")
        elif len(x)==3 and int(x[0])!=0 :
            katakan.append("seratus")
        idx+=1
    return " ".join(katakan[::-1])

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: C:\Users\Satria\Documents\MODUL_1\no13.py =====
>>> katakan(100)
'seratus'
>>> katakan(1000)
'seribu'
>>> katakan(11111)
'sebelas ribu seratus sebelas'
>>> katakan(1111111)
'sebelas juta seratus sebelas ribu seratus sebelas'
>>>
```

14.



The image shows a screenshot of a Python 3.7.4 Shell window. The window is titled "Python 3.7.4 Shell" and has a menu bar with "File", "Edit", "Shell", "Debug", "Options", "Window", and "Help". The main text area contains the following code:

```
no14.py - C:\Users\Satria\Documents\MODUL_1\no14.py (3.7.4)
File Edit Format Run Options Window Help
def formatRupiah(n):
    x = '{:,}'.format(n).replace(',', '.')
    return "Rp " + x

>>>
===== RESTART: C:\Users\Satria\Documents\MODUL_1\no14.py =====
>>> formatRupiah(1000000)
'Rp 1.000.000'
>>> |
```

The status bar at the bottom right of the window indicates "Ln: 7 Col: 4".