

Nama : Ambar Wati
NIM : 20.01.013.001
Mata Kuliah : Pemrograman Python (C)

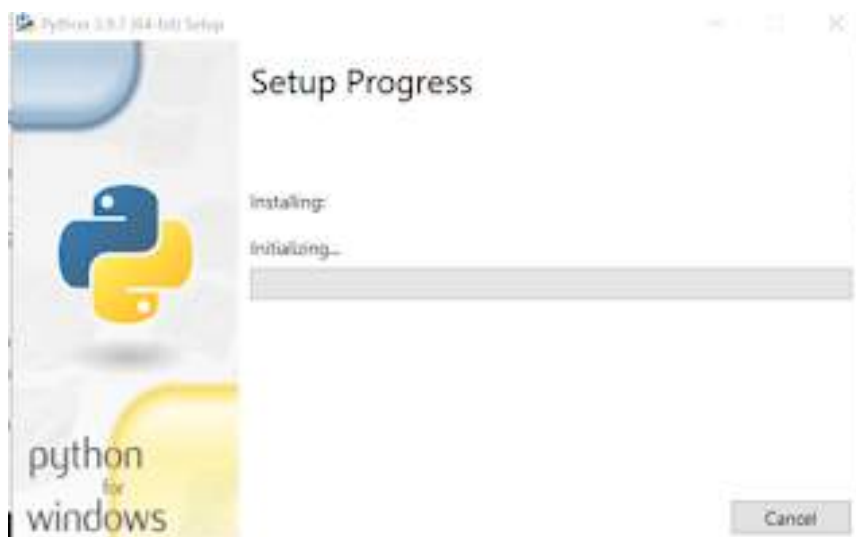
Task 3

Instalasi Python

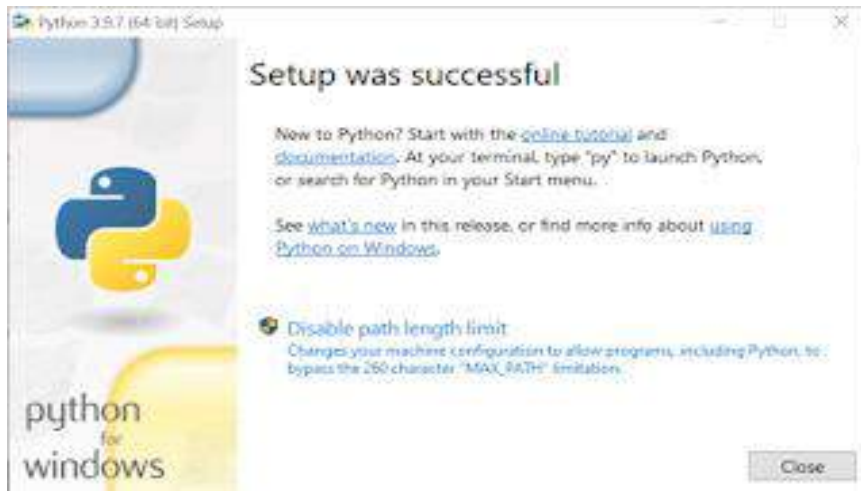
1. Pilih system python yang sesuai dengan system anda disini saya memakai python(3.9.7/64-bit)



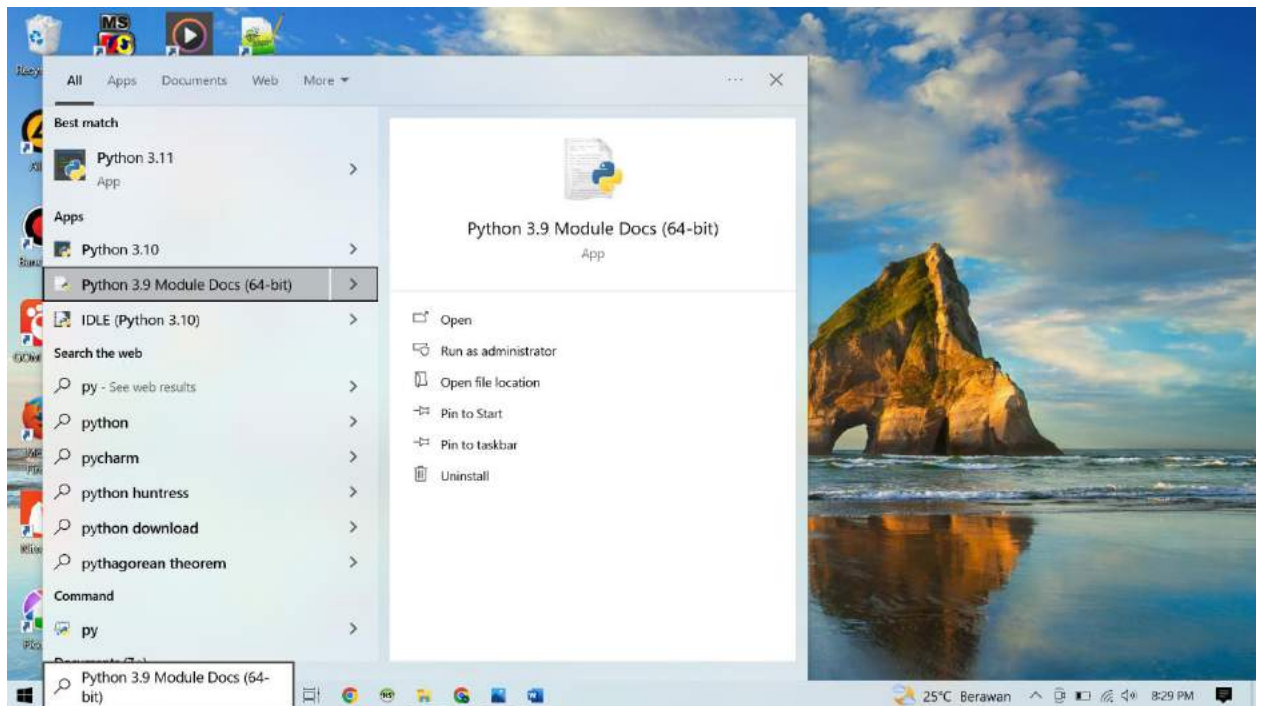
2. Tunggu hingga proses instalasi selesai



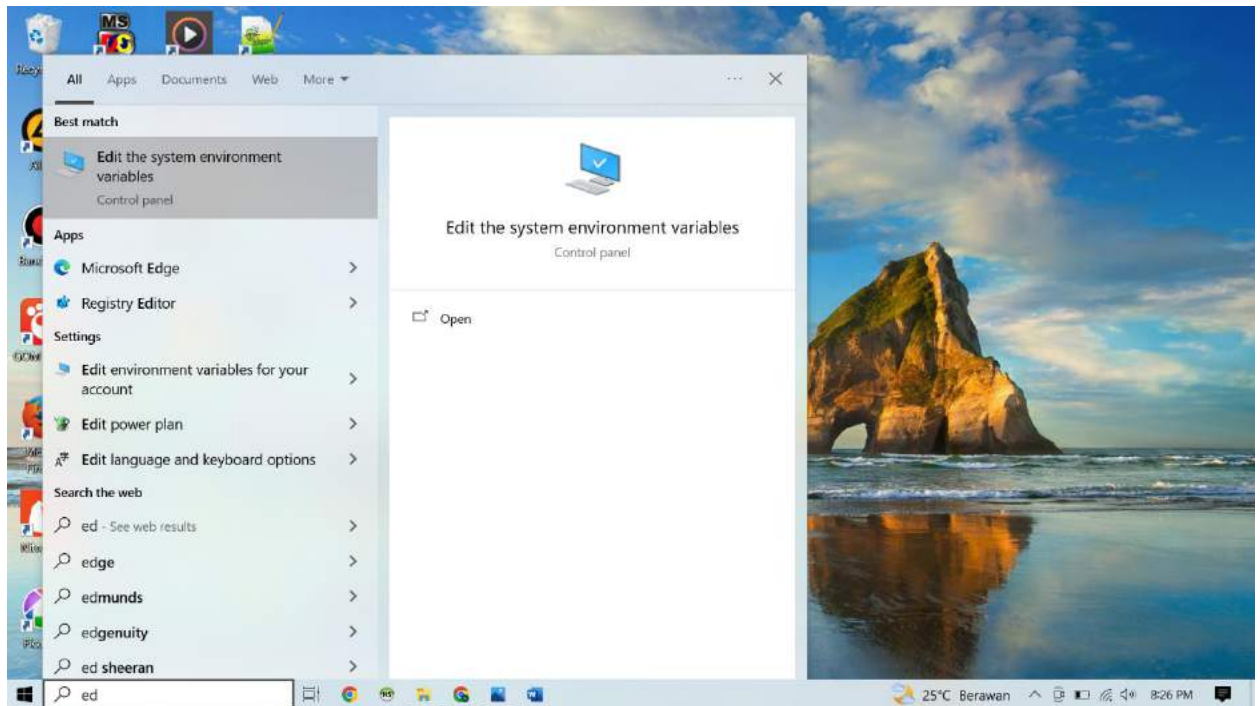
3. Setelah sukses klik Close.



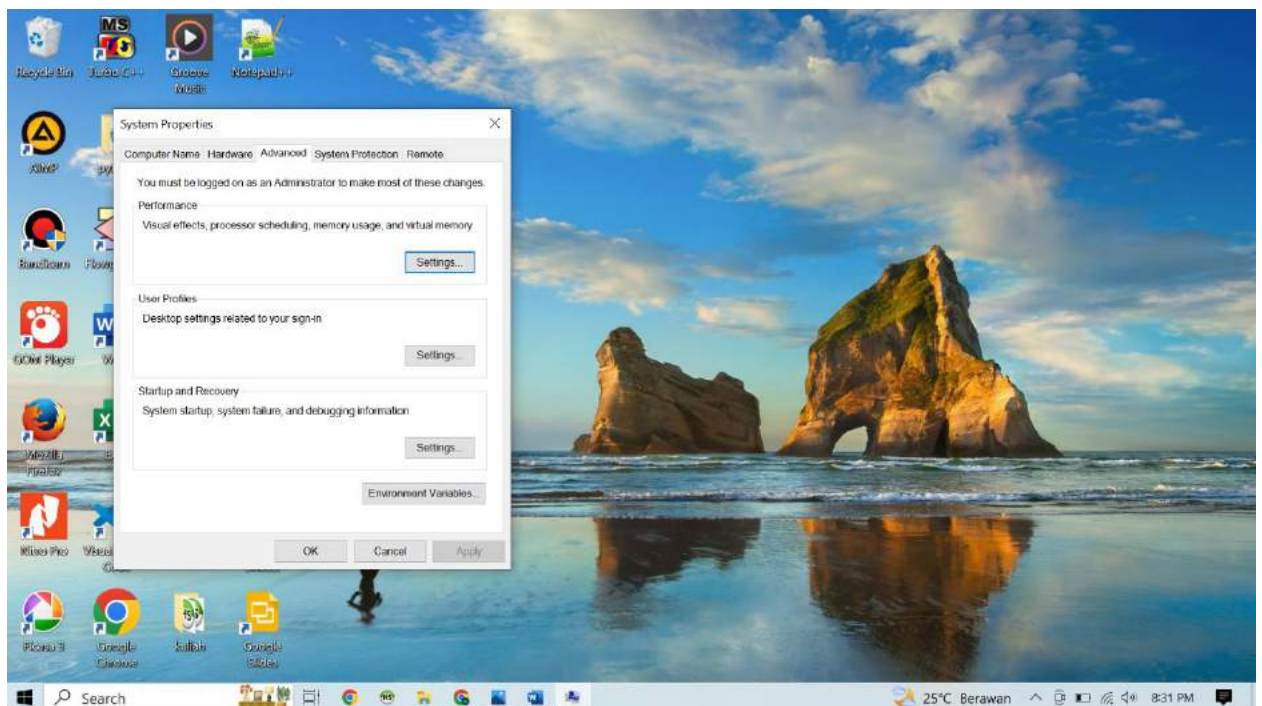
4. Kita bisa mengecek apakah python sudah terinstal atau belum.



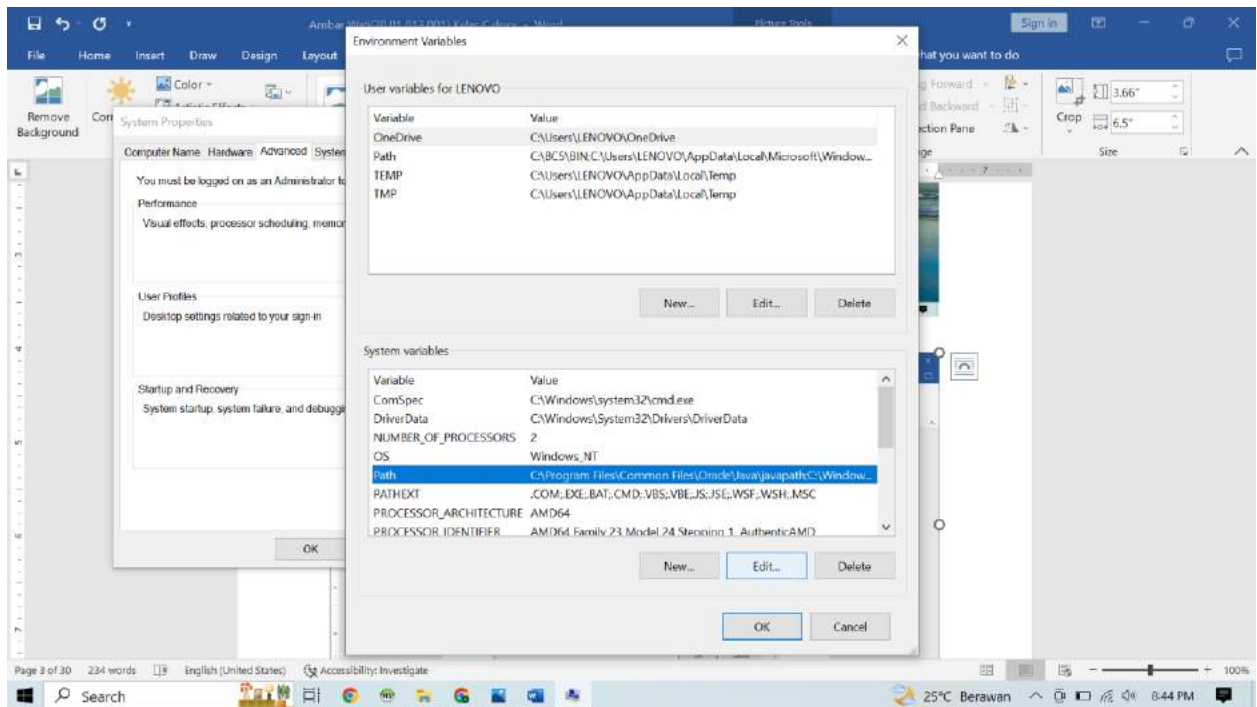
5. Selanjutnya buka sistem **enviroment variabel** untuk mensetting **path**.bisa di cek di menu searching.



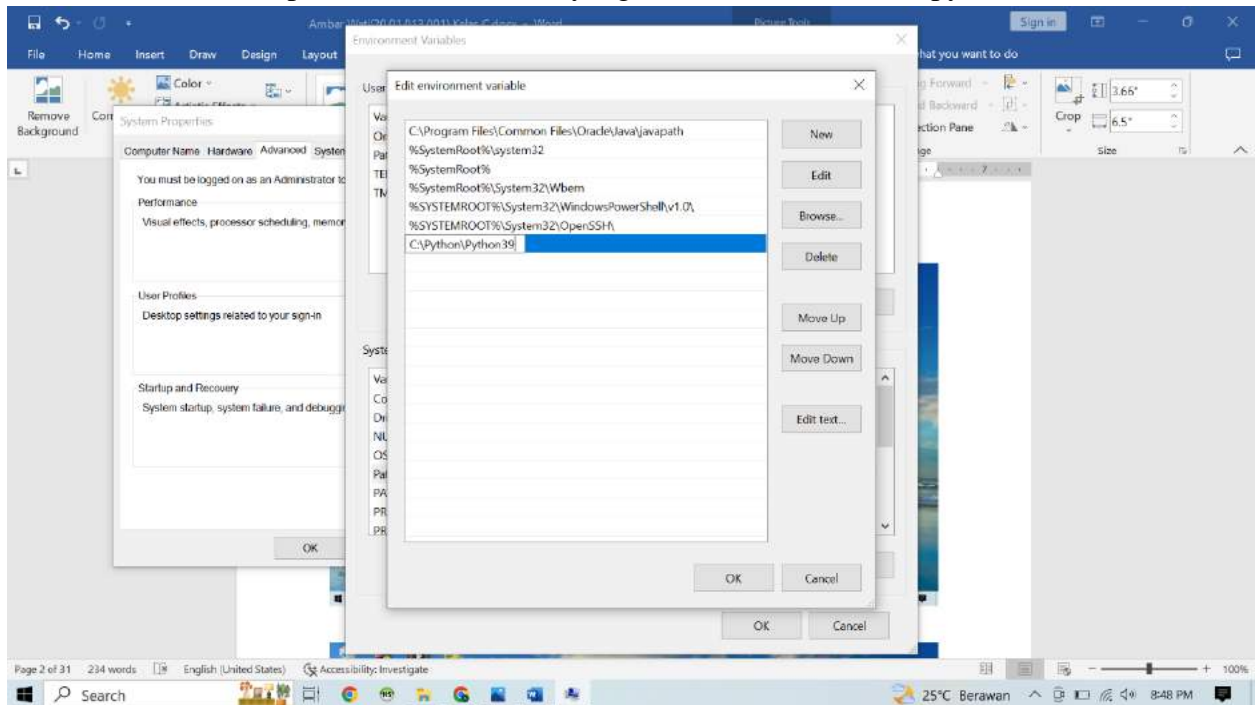
6. Setelah muncul kotak dialog klik **enviroment variabels** seperti gambar di bawah ini.



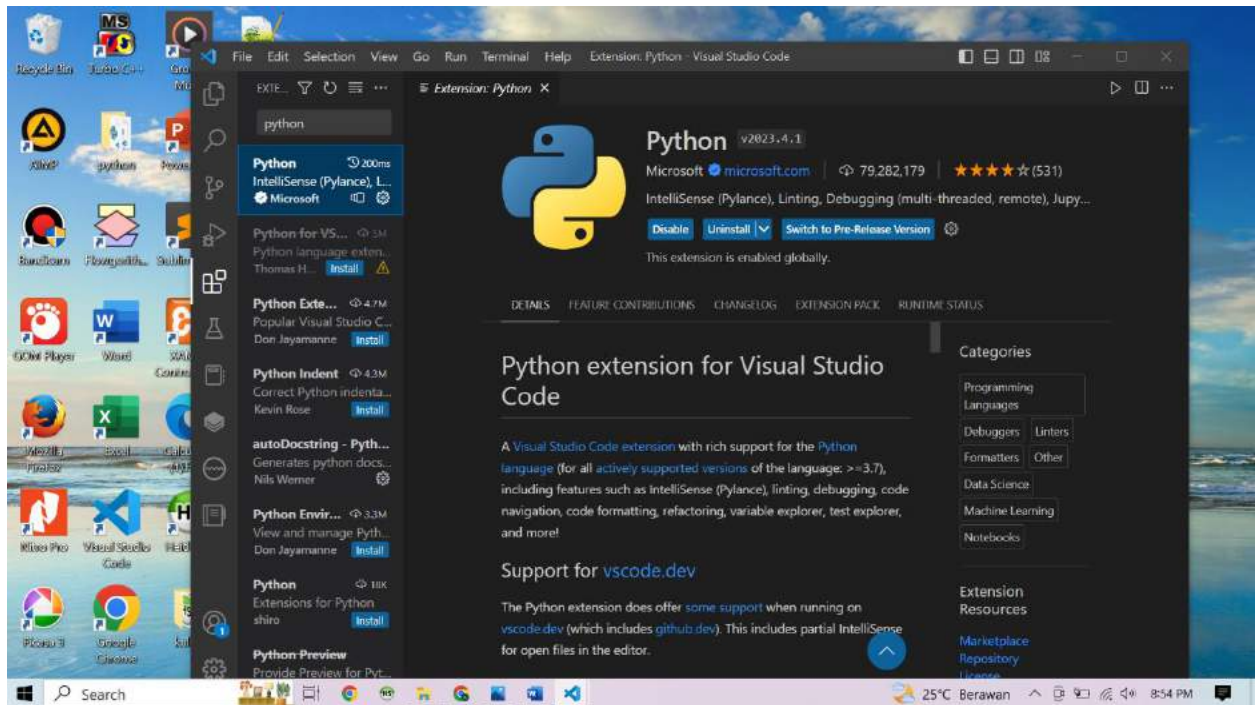
7. Pada bagian **system variables path** klik edit.



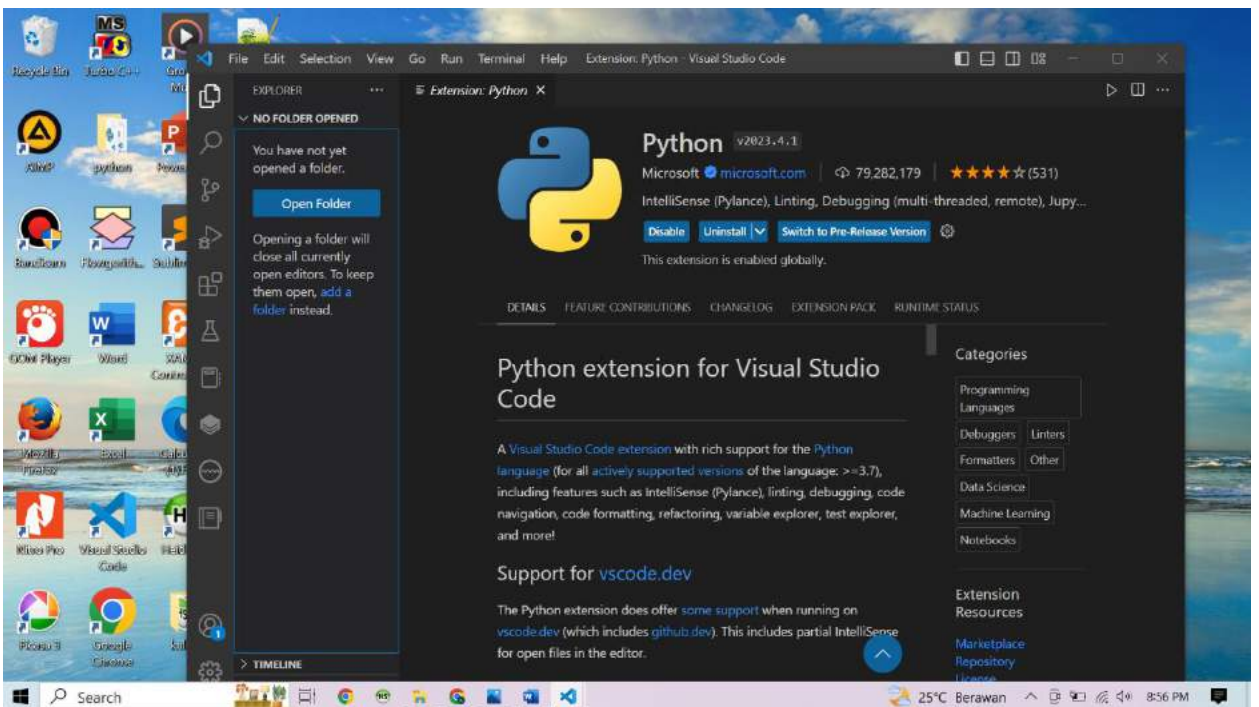
8. Klik tombol new lalu paste alamat directori yang telah di buat atau di copy



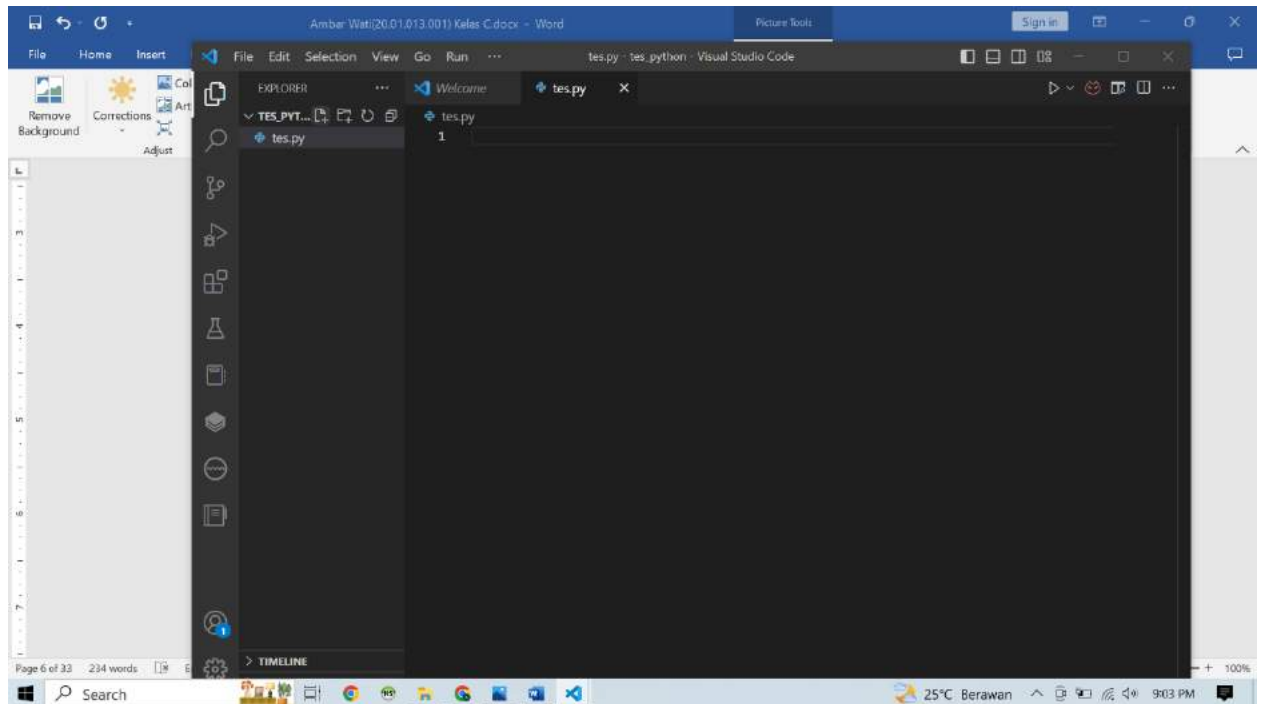
9. Lalu buka vs code pilih menu **extension** lalu searching python kemudian di install.



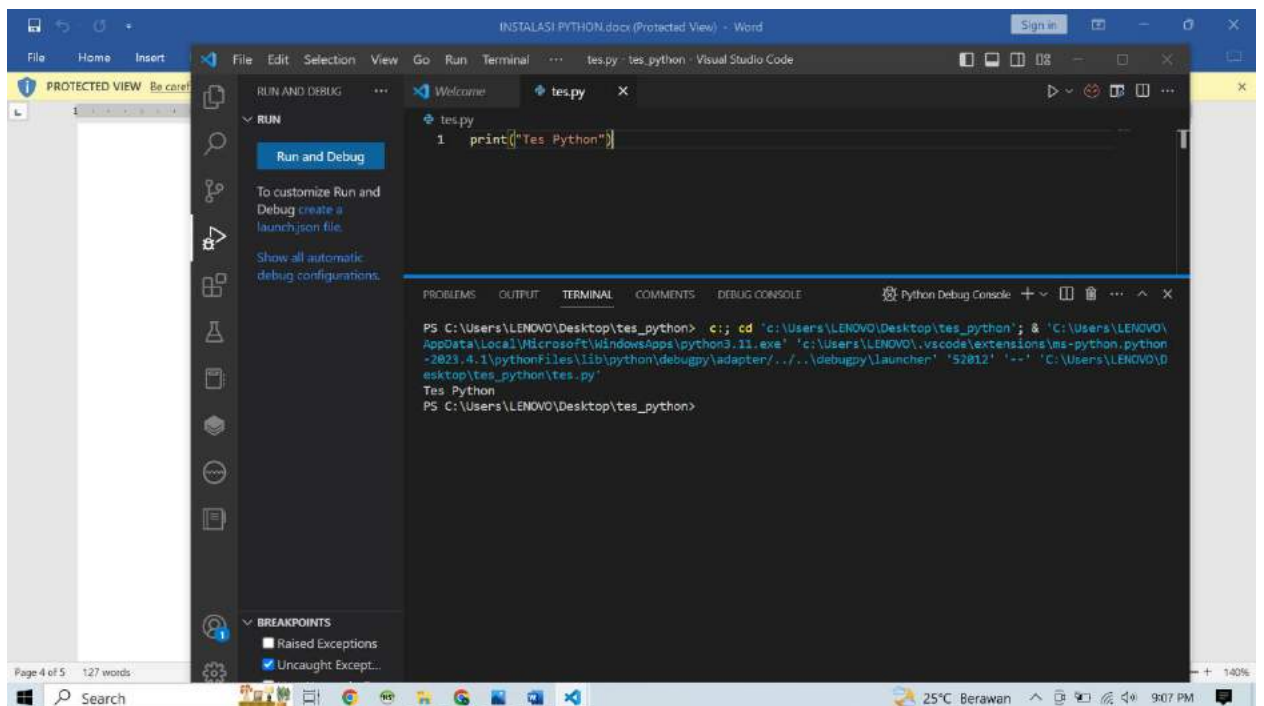
10. Lalu buat folder pada dekstop yang anda mau



11. Pada new file lalu buat **folder tes.pyhton**



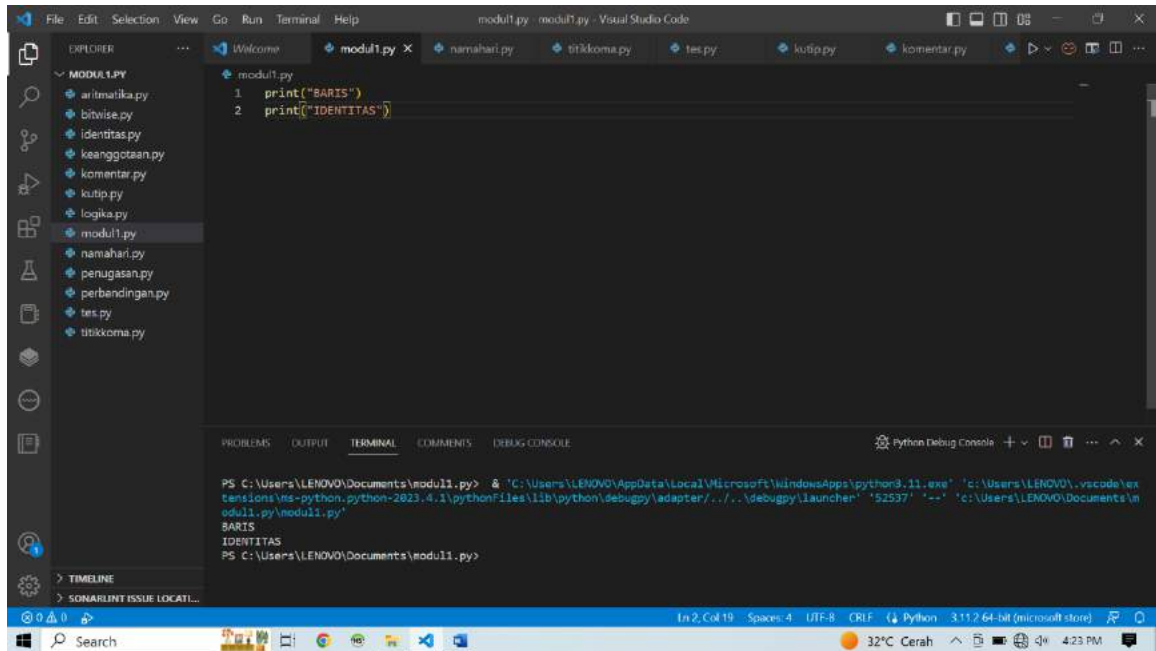
12. lalu run and Debug project seperti pada gambar di bawah ini



Python – Modul 1

1. Baris dan identitas

Blok kode pada python menggunakan tanda identitas (spasi).

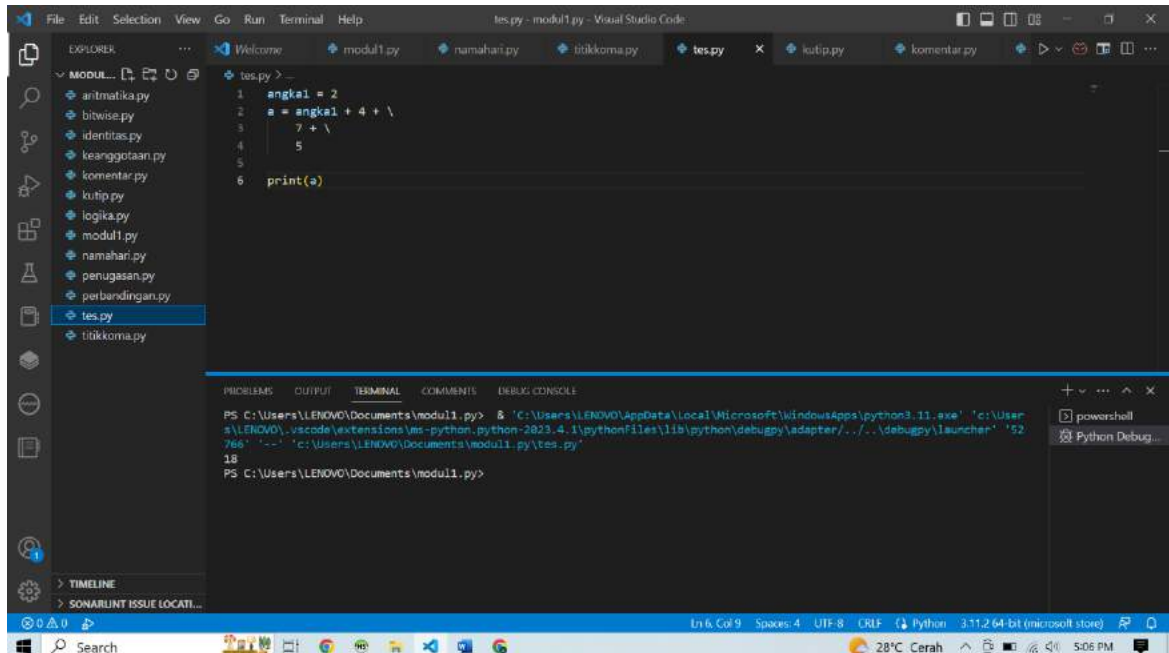


```
modul1.py
1 print("BARIS")
2 print("IDENTITAS")
```

```
PS C:\Users\LENOVO\Documents\modul1.py> & 'C:\Users\LENOVO\AppData\Local\Microsoft\WindowsApps\python3.11.exe' 'c:\Users\LENOVO\.vscode\extensions\ms-python.python-2023.4.1\pythonFiles\lib\python\debugpy\adapter\..\..\debugpy\launcher' '52537' '--' 'c:\Users\LENOVO\Documents\modul1.py\modul1.py'
BARIS
IDENTITAS
PS C:\Users\LENOVO\Documents\modul1.py>
```

2. Pernyataan Multibaris

Pada Python sebuah statement pada akhir dari baris baris menggunakan tanda (/)

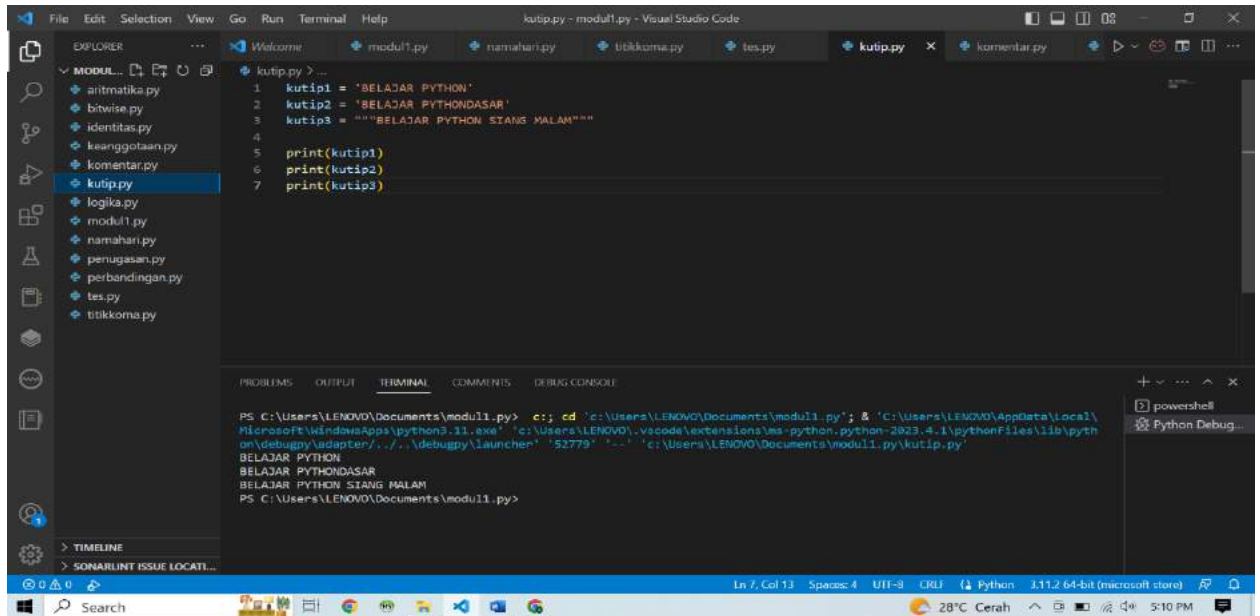


```
tes.py
1 angka1 = 2
2 a = angka1 + 4 + \
3     7 + \
4     5
5
6 print(a)
```

```
PS C:\Users\LENOVO\Documents\modul1.py> & 'C:\Users\LENOVO\AppData\Local\Microsoft\WindowsApps\python3.11.exe' 'c:\Users\LENOVO\.vscode\extensions\ms-python.python-2023.4.1\pythonFiles\lib\python\debugpy\adapter\..\..\debugpy\launcher' '52766' '--' 'c:\Users\LENOVO\Documents\modul1.py\tes.py'
18
PS C:\Users\LENOVO\Documents\modul1.py>
```

3. Tanda Kutip

Pada python menggunakan tanda kutip tunggal ('), ganda(""), triple("""



```
File Edit Selection View Go Run Terminal Help
kutip.py - modul1.py - Visual Studio Code

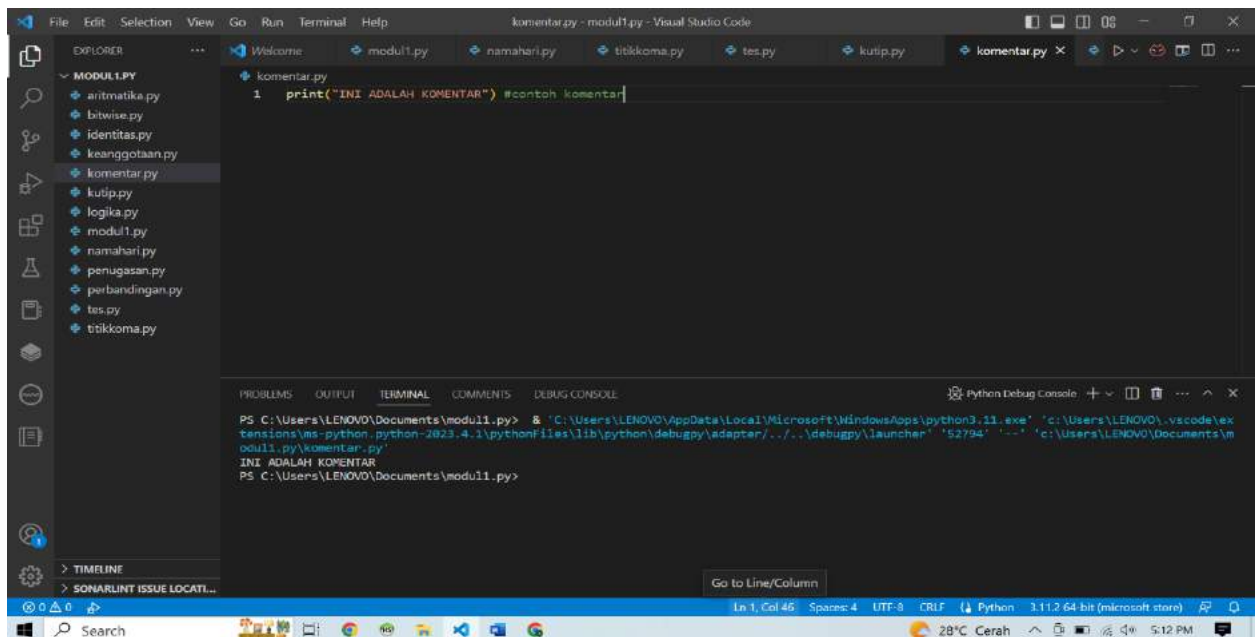
EXPLORER
MODUL1.py
  airtmatika.py
  bitwise.py
  identitas.py
  keanggotaan.py
  komentar.py
  kutip.py
  logika.py
  modul1.py
  namahari.py
  penugasan.py
  perbandingan.py
  tes.py
  titikkoma.py

kutip.py
1 kutip1 = 'BELAJAR PYTHON'
2 kutip2 = "BELAJAR PYTHONBASAR"
3 kutip3 = """BELAJAR PYTHON SIANG MALAM"""
4
5 print(kutip1)
6 print(kutip2)
7 print(kutip3)

TERMINAL
PS C:\Users\LENOVO\Documents\modul1.py> c:\; cd 'c:\Users\LENOVO\Documents\modul1.py'; & 'C:\Users\LENOVO\AppData\Local\Microsoft\WindowsApps\python3.11.exe' 'c:\Users\LENOVO\.vscode\extensions\ms-python.python-2023.4.1\pythonFiles\lib\python\debugpy\adapter\..\..\debugpy\launcher' '52779' '--' 'c:\Users\LENOVO\Documents\modul1.py\kutip.py'
BELAJAR PYTHON
BELAJAR PYTHONBASAR
BELAJAR PYTHON SIANG MALAM
PS C:\Users\LENOVO\Documents\modul1.py>
```

4. Komentar

Tanda pagar (#) digunakan untuk menandai komentar python, komentar berguna untuk memudahkan memahami maksud dari kode



```
File Edit Selection View Go Run Terminal Help
komentar.py - modul1.py - Visual Studio Code

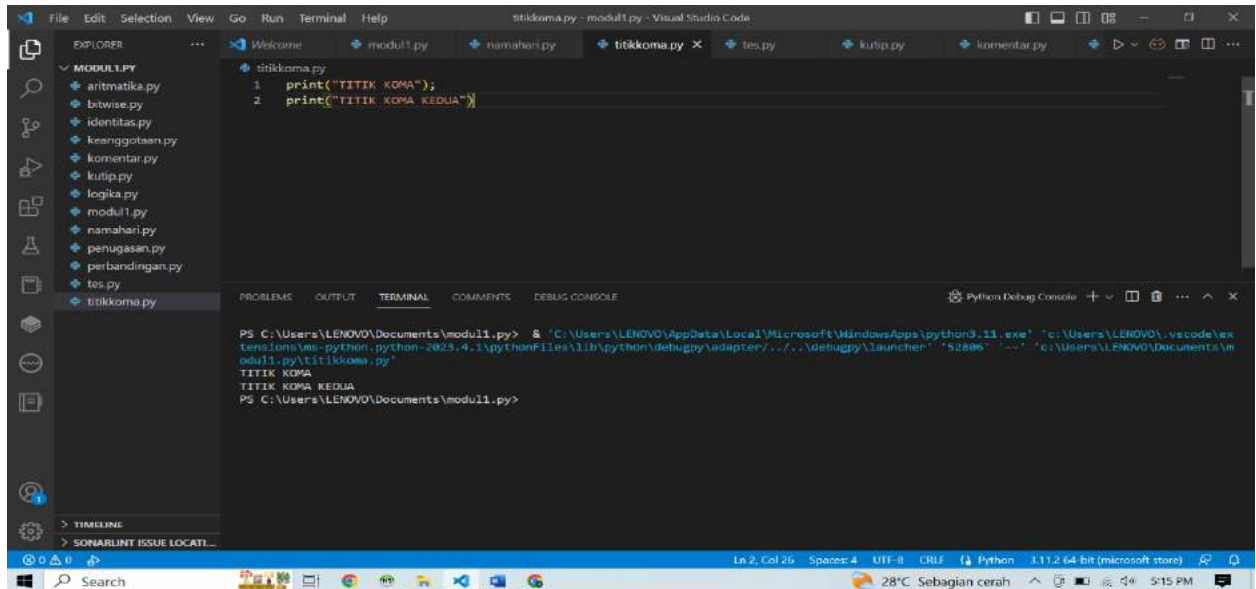
EXPLORER
MODUL1.py
  airtmatika.py
  bitwise.py
  identitas.py
  keanggotaan.py
  komentar.py
  kutip.py
  logika.py
  modul1.py
  namahari.py
  penugasan.py
  perbandingan.py
  tes.py
  titikkoma.py

komentar.py
1 print("INI ADALAH KOMENTAR") #contoh komentar

TERMINAL
PS C:\Users\LENOVO\Documents\modul1.py> & 'C:\Users\LENOVO\AppData\Local\Microsoft\WindowsApps\python3.11.exe' 'c:\Users\LENOVO\.vscode\extensions\ms-python.python-2023.4.1\pythonFiles\lib\python\debugpy\adapter\..\..\debugpy\launcher' '52794' '--' 'c:\Users\LENOVO\Documents\modul1.py\komentar.py'
INI ADALAH KOMENTAR
PS C:\Users\LENOVO\Documents\modul1.py>
```


5. Dua pernyataan dalam satu baris

Titik koma dapat digunakan ketika terdapat 2 pernyataan dalam 1 baris kode



```
File Edit Selection View Go Run Terminal Help
titik_koma.py - modul1.py - Visual Studio Code

EXPLORER
MODUL1.PY
  aritmatika.py
  bitwise.py
  identitas.py
  keanggotaan.py
  komentar.py
  kutip.py
  logika.py
  modul1.py
  namahari.py
  penugasan.py
  perbandingan.py
  tes.py
  titik_koma.py

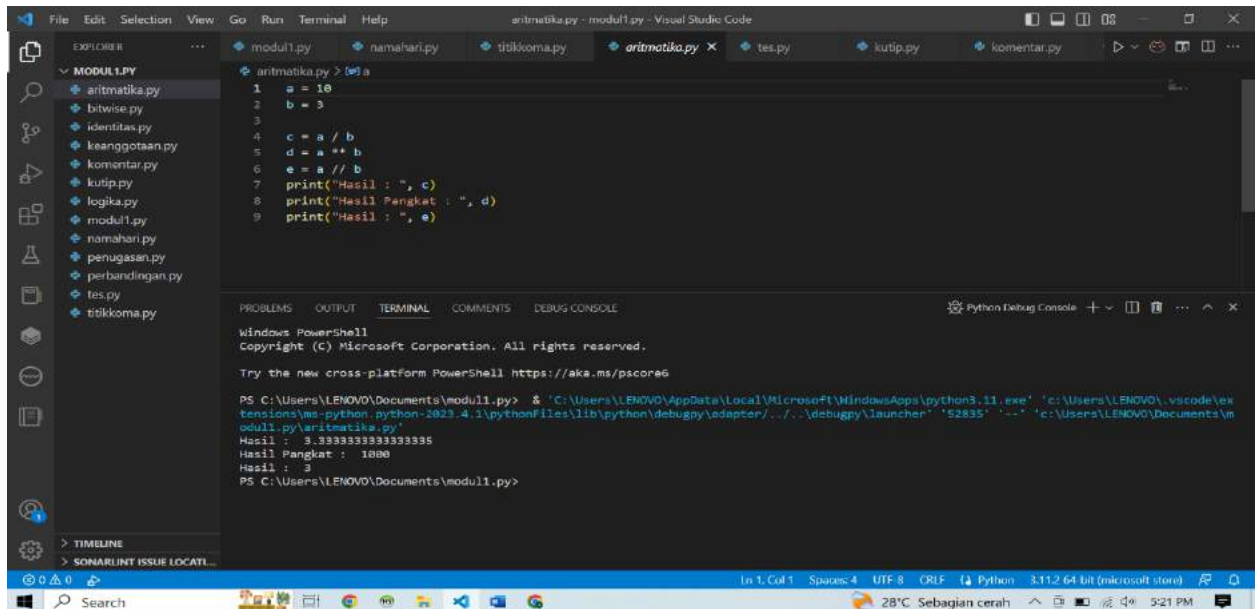
titik_koma.py
1 print("TITIK KOMA");
2 print("TITIK KOMA KEDUA")

PROBLEMS OUTPUT TERMINAL COMMENTS DEBUG CONSOLE
Python Debug Console

PS C:\Users\LENOVO\Documents\modul1.py> & 'C:\Users\LENOVO\AppData\Local\Microsoft\WindowsApps\python3.11.exe' 'c:\Users\LENOVO\.vscode\extensions\ms-python.python-2023.4.1\pythonFiles\lib\python\debugpy\adapter\..\..\debugpy\launcher' '52806' '--' 'c:\Users\LENOVO\Documents\modul1.py\titik_koma.py'
TITIK KOMA
TITIK KOMA KEDUA
PS C:\Users\LENOVO\Documents\modul1.py>
```

6. Operator Aritmatika

Operator Aritmatika digunakan untuk melakukan operasi matematika seperti penjumlahan, pengurangan, perkalian, pembagian, dan lain – lain.



```
File Edit Selection View Go Run Terminal Help
aritmatika.py - modul1.py - Visual Studio Code

EXPLORER
MODUL1.PY
  aritmatika.py
  bitwise.py
  identitas.py
  keanggotaan.py
  komentar.py
  kutip.py
  logika.py
  modul1.py
  namahari.py
  penugasan.py
  perbandingan.py
  tes.py
  titik_koma.py

aritmatika.py
1 a = 10
2 b = 3
3
4 c = a / b
5 d = a ** b
6 e = a // b
7 print("Hasil : ", c)
8 print("Hasil Pangkat : ", d)
9 print("Hasil : ", e)

PROBLEMS OUTPUT TERMINAL COMMENTS DEBUG CONSOLE
Python Debug Console

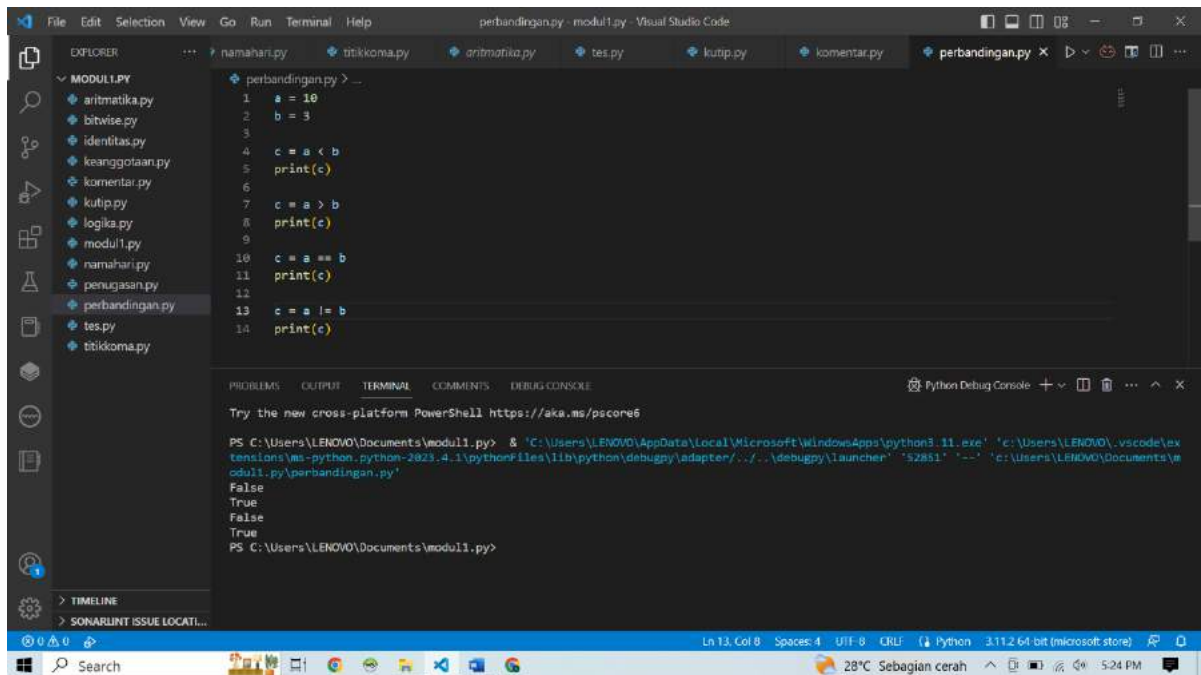
Windows PowerShell
Copyright (C) Microsoft Corporation. All rights reserved.

Try the new cross-platform PowerShell https://aka.ms/powershell

PS C:\Users\LENOVO\Documents\modul1.py> & 'C:\Users\LENOVO\AppData\Local\Microsoft\WindowsApps\python3.11.exe' 'c:\Users\LENOVO\.vscode\extensions\ms-python.python-2023.4.1\pythonFiles\lib\python\debugpy\adapter\..\..\debugpy\launcher' '52835' '--' 'c:\Users\LENOVO\Documents\modul1.py\aritmatika.py'
Hasil : 3.3333333333333335
Hasil Pangkat : 1000
Hasil : 3
PS C:\Users\LENOVO\Documents\modul1.py>
```

7. Operator Perbandingan

Digunakan untuk membandingkan 2 buah nilai. Hasil dari perbandingan yaitu True atau False



The screenshot displays the Visual Studio Code interface with a Python file named `perbandingan.py` open. The file contains the following code:

```
1 a = 10
2 b = 3
3
4 c = a < b
5 print(c)
6
7 c = a > b
8 print(c)
9
10 c = a == b
11 print(c)
12
13 c = a != b
14 print(c)
```

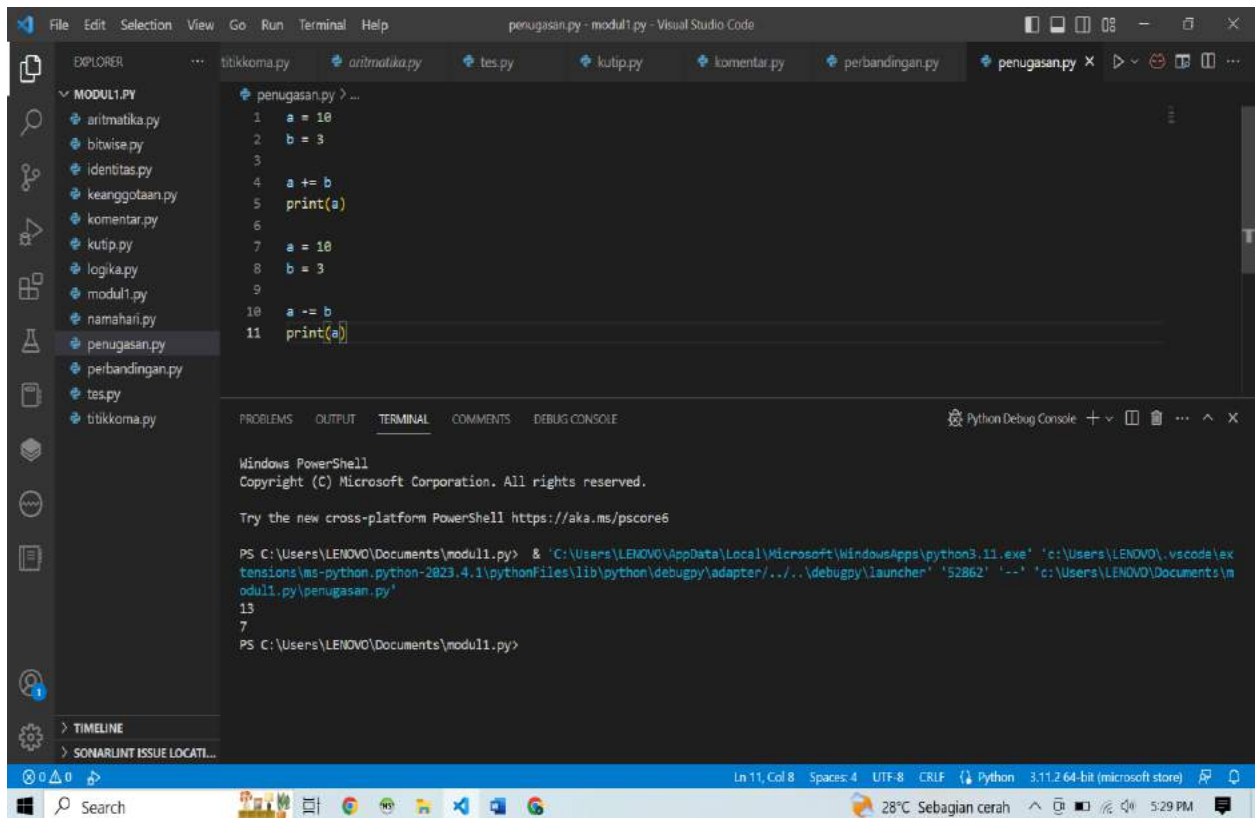
The terminal output shows the results of these comparisons:

```
PS C:\Users\LENOVO\Documents\modul1.py> & 'c:\Users\LENOVO\AppData\Local\Microsoft\WindowsApps\python3.11.exe' 'c:\Users\LENOVO\.vscode\extensions\ms-python.python-2023.4.1\pythonFiles\lib\python\debugpy\adapter\..\..\debugpy\launcher' '52851' '...' 'c:\Users\LENOVO\Documents\modul1.py\perbandingan.py'
False
True
False
True
PS C:\Users\LENOVO\Documents\modul1.py>
```

The status bar at the bottom indicates the current line and column: `Ln 13, Col 8`. The system tray shows the temperature as `28°C` and the time as `5:24 PM`.

8. Operator Penugasan

Digunakan untuk memberi nilai ke variable.



The screenshot shows the Visual Studio Code interface with the file explorer on the left displaying a project named 'MODUL1.PY'. The file 'penugasan.py' is selected. The editor window shows the following code:

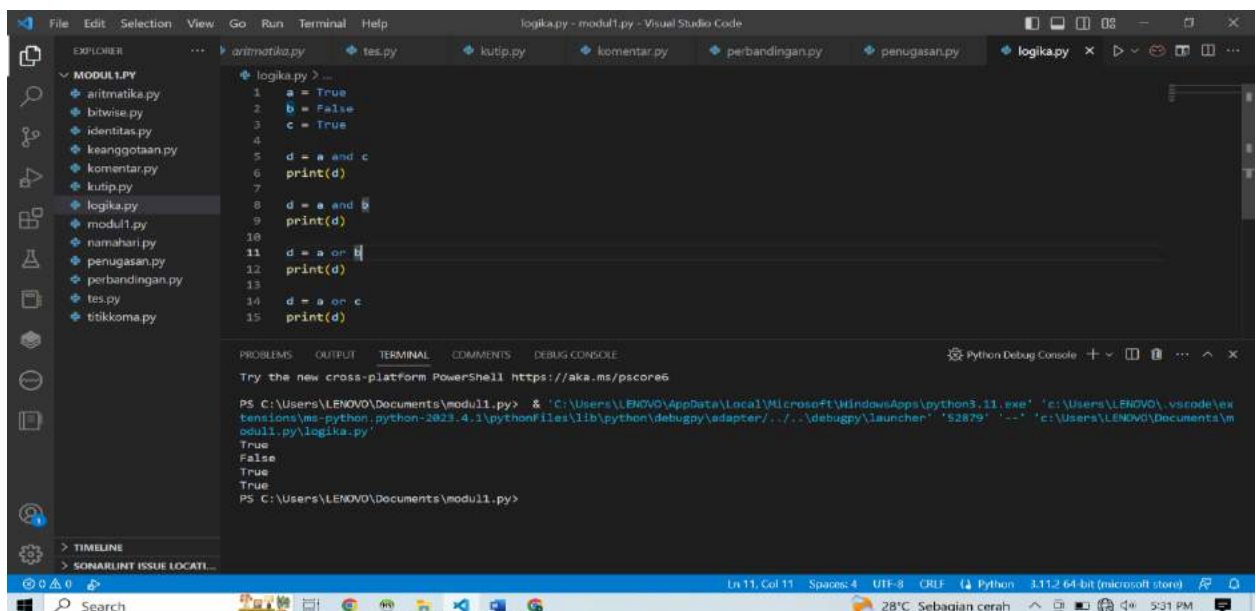
```
1 a = 10
2 b = 3
3
4 a += b
5 print(a)
6
7 a = 10
8 b = 3
9
10 a -= b
11 print(a)
```

The terminal at the bottom shows the execution of the script using PowerShell:

```
PS C:\Users\LENOVO\Documents\modul1.py> & 'C:\Users\LENOVO\AppData\Local\Microsoft\WindowsApps\python3.11.exe' 'c:\Users\LENOVO\.vscode\extensions\ms-python.python-2023.4.1\pythonFiles\lib\python\debugpy\adapter\..\..\debugpy\launcher' '52862' '--' 'c:\Users\LENOVO\Documents\modul1.py\penugasan.py'
13
7
PS C:\Users\LENOVO\Documents\modul1.py>
```

9. Operator Logika

Digunakan untuk melakukan operasi logika.



The screenshot shows the Visual Studio Code interface with the file explorer on the left displaying a project named 'MODUL1.PY'. The file 'logika.py' is selected. The editor window shows the following code:

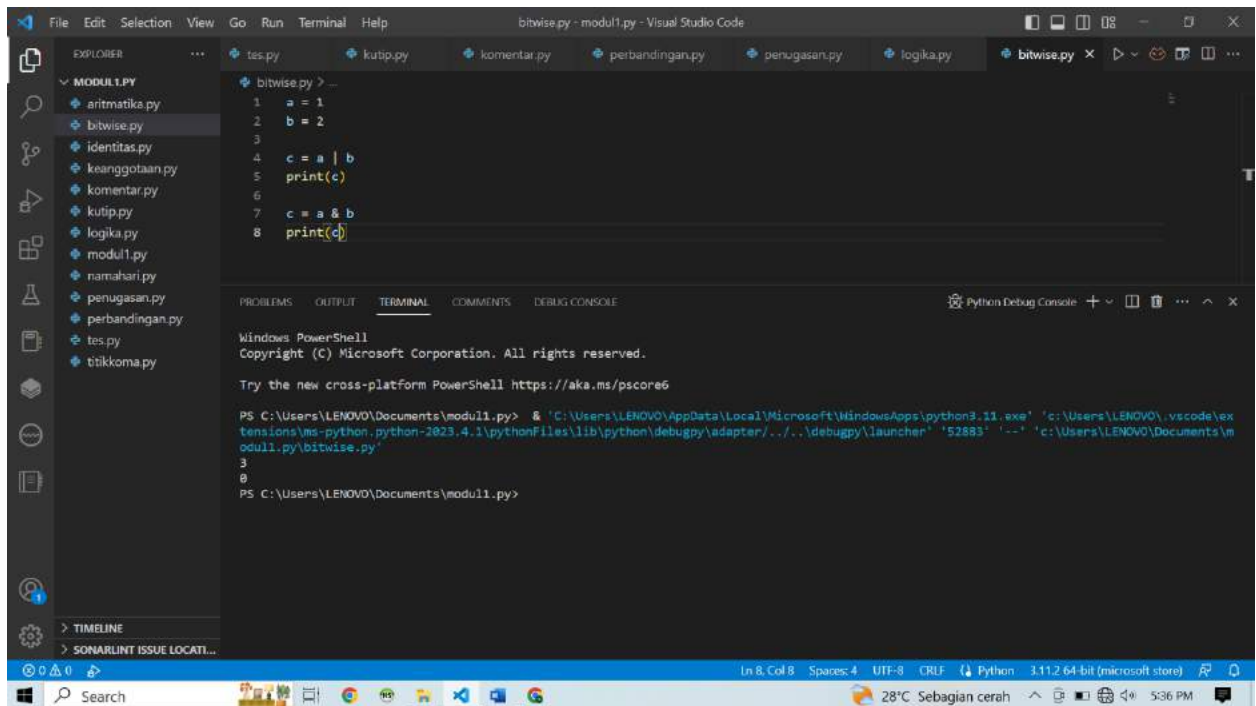
```
1 a = True
2 b = False
3 c = True
4
5 d = a and c
6 print(d)
7
8 d = a and b
9 print(d)
10
11 d = a or b
12 print(d)
13
14 d = a or c
15 print(d)
```

The terminal at the bottom shows the execution of the script using PowerShell:

```
PS C:\Users\LENOVO\Documents\modul1.py> & 'C:\Users\LENOVO\AppData\Local\Microsoft\WindowsApps\python3.11.exe' 'c:\Users\LENOVO\.vscode\extensions\ms-python.python-2023.4.1\pythonFiles\lib\python\debugpy\adapter\..\..\debugpy\launcher' '52879' '--' 'c:\Users\LENOVO\Documents\modul1.py\logika.py'
True
False
True
True
PS C:\Users\LENOVO\Documents\modul1.py>
```

10. Operator Bitwise

Operator yang melakukan operasi bit terhadap operand.



The screenshot shows the Visual Studio Code editor with a file named `bitwise.py` open. The code in the editor is as follows:

```
1 a = 1
2 b = 2
3
4 c = a | b
5 print(c)
6
7 c = a & b
8 print(c)
```

The terminal output shows the execution of the script:

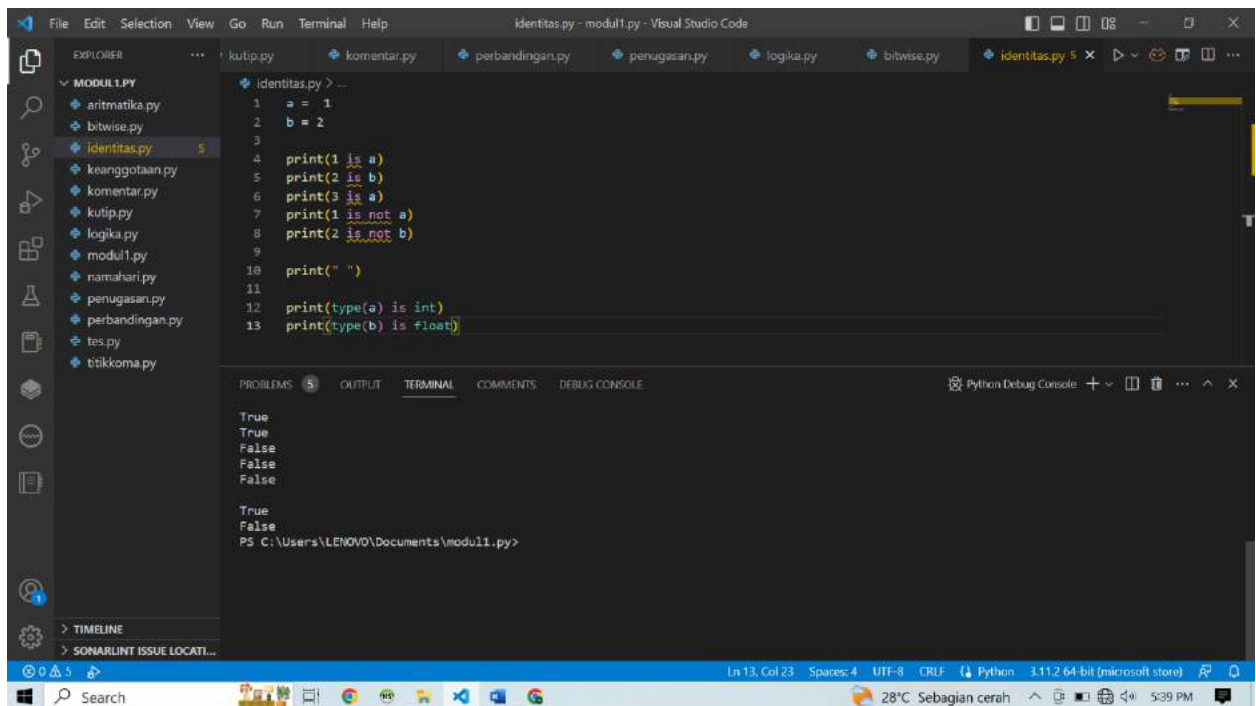
```
Windows PowerShell
Copyright (C) Microsoft Corporation. All rights reserved.

Try the new cross-platform PowerShell https://aka.ms/pscore6

PS C:\Users\LENOVO\Documents\modul1.py> & 'C:\Users\LENOVO\AppData\Local\Microsoft\WindowsApps\python3.11.exe' 'c:\Users\LENOVO\.vscode\extensions\ms-python.python-2023.4.1\pythonFiles\lib\python\debugpy\launcher' '52683' '--' 'c:\Users\LENOVO\Documents\modul1.py\bitwise.py'
3
0
PS C:\Users\LENOVO\Documents\modul1.py>
```

11. Operator Identitas

Operator yang memeriksa apakah dua buah nilai (atau variable) berada pada lokasi memori yang sama.



The screenshot shows the Visual Studio Code editor with a file named `identitas.py` open. The code in the editor is as follows:

```
1 a = 1
2 b = 2
3
4 print(1 is a)
5 print(2 is b)
6 print(3 is a)
7 print(1 is not a)
8 print(2 is not b)
9
10 print(" ")
11
12 print(type(a) is int)
13 print(type(b) is float)
```

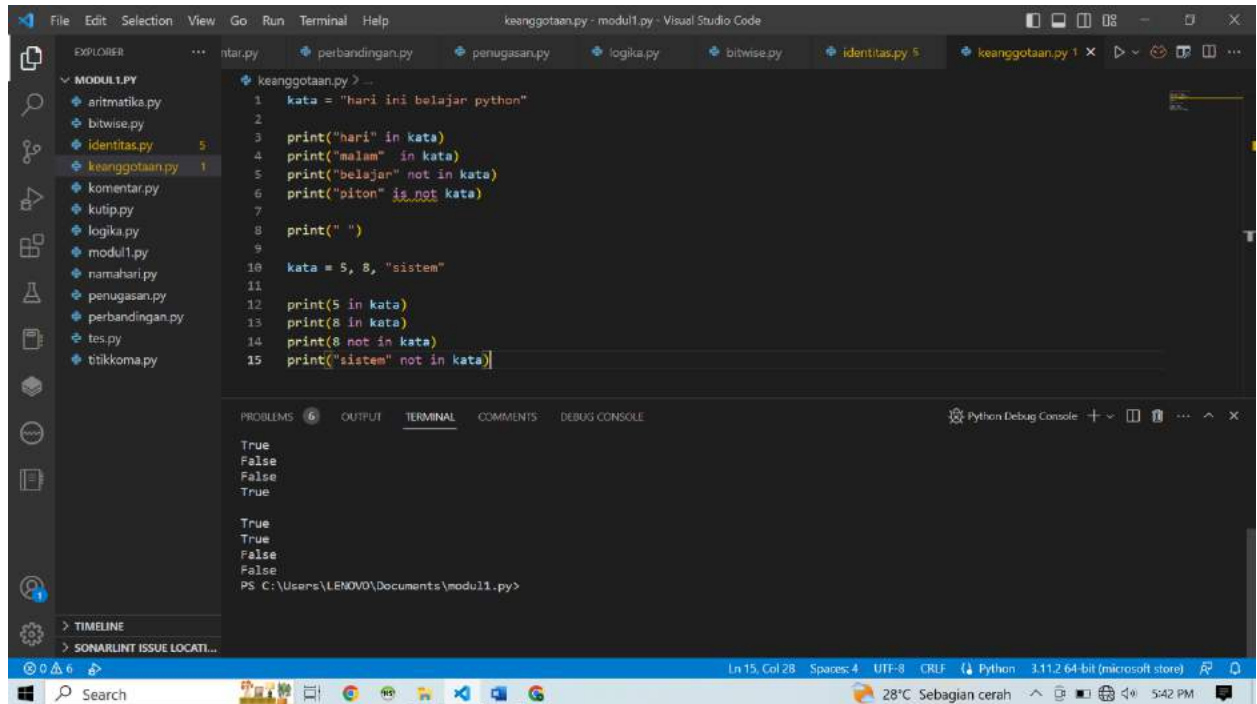
The terminal output shows the execution of the script:

```
True
True
False
False
False

True
False
PS C:\Users\LENOVO\Documents\modul1.py>
```


12. Operator Keanggotaan

Digunakan untuk memeriksa apakah suatu nilai atau variable merupakan anggota atau ditemukan di dalam suatu data (string, list, tuple, set, dan dictionary)



The screenshot shows the Visual Studio Code interface with a Python file named `keanggotaan.py` open. The file contains two examples of membership operators (`in` and `not in`) being used with strings and lists. The terminal window at the bottom shows the output of the script, which consists of `True` and `False` values corresponding to the membership checks.

```
keanggotaan.py - modul1.py - Visual Studio Code

EXPLORER
  MODUL1.PY
    aritmatika.py
    bitwise.py
    identitas.py
    keanggotaan.py
    komentar.py
    kutip.py
    logika.py
    modul1.py
    namahari.py
    penugasan.py
    perbandingan.py
    tes.py
    titikoma.py

keanggotaan.py > ...
1 kata = "hari ini belajar python"
2
3 print("hari" in kata)
4 print("malam" in kata)
5 print("belajar" not in kata)
6 print("python" is not kata)
7
8 print(" ")
9
10 kata = 5, 8, "sistem"
11
12 print(5 in kata)
13 print(8 in kata)
14 print(8 not in kata)
15 print("sistem" not in kata)

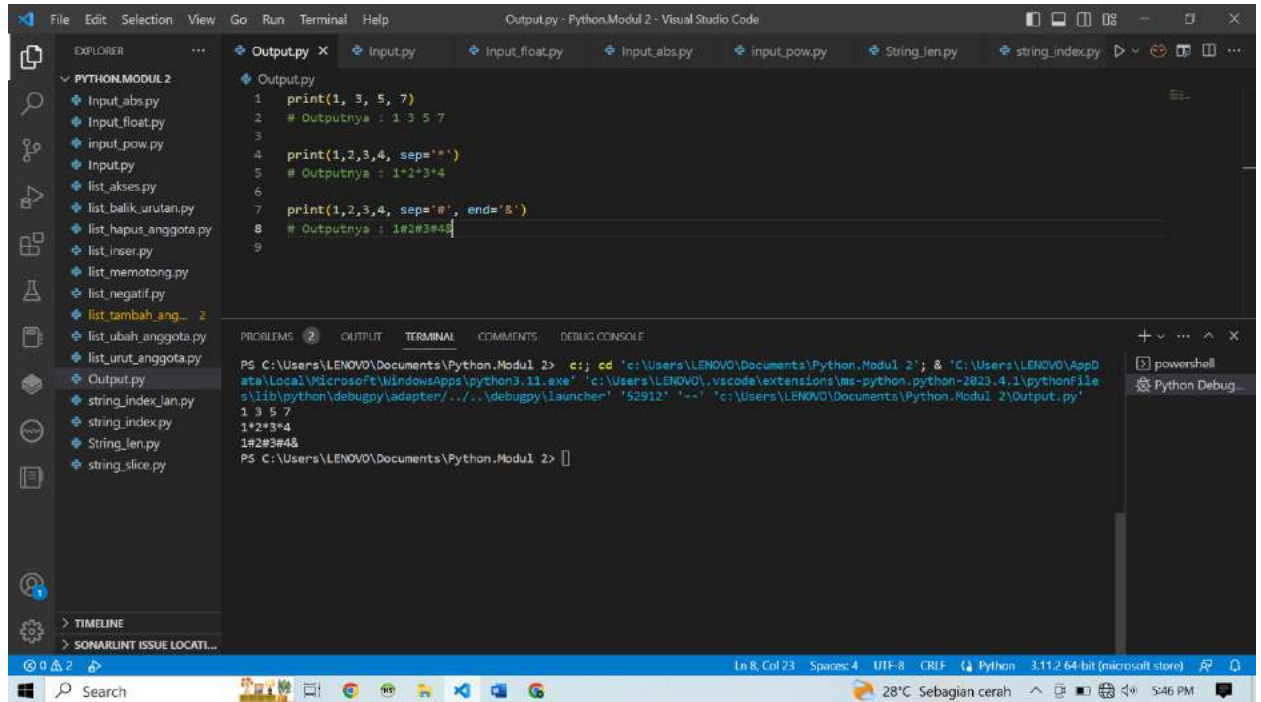
PROBLEMS OUTPUT TERMINAL COMMENTS DEBUG CONSOLE
Python Debug Console
True
False
False
True

True
True
False
False

PS C:\Users\LENOVO\Documents\modul1.py>
```

Python – Modul 2

1. Output



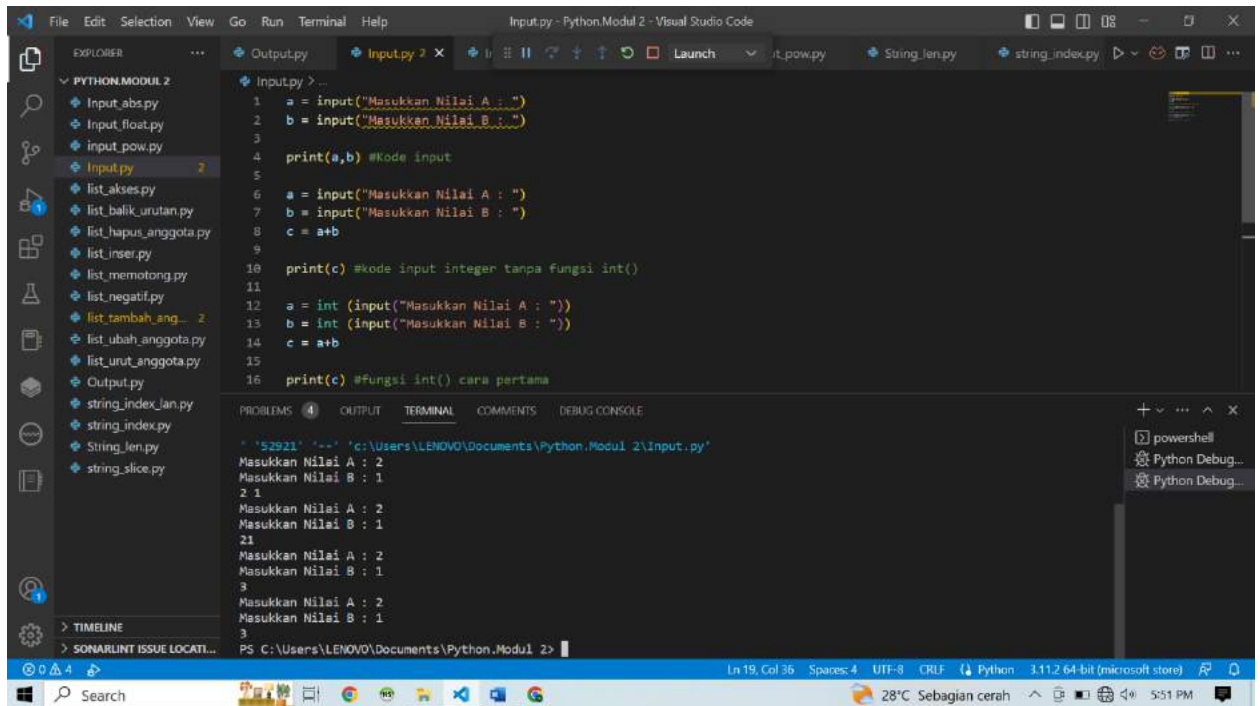
The screenshot shows the Visual Studio Code interface with the 'Output.py' file open. The file contains the following Python code:

```
1 print(1, 3, 5, 7)
2 # Outputnya : 1 3 5 7
3
4 print(1,2,3,4, sep='')
5 # Outputnya : 1*2*3*4
6
7 print(1,2,3,4, sep='#', end='&')
8 # Outputnya : 1#2#3#4&
9
```

The terminal output shows the execution of the code:

```
PS C:\Users\LENOVO\Documents\Python.Modul 2> c:\Users\LENOVO\AppData\Local\Microsoft\WindowsApps\python3.11.exe "c:\Users\LENOVO\vscode\extensions\ms-python.python-2023.4.1\pythonFiles\lib\python\debugpy\adapter\..\..\debugpy\launcher" "52912" "--" "c:\Users\LENOVO\Documents\Python.Modul 2\Output.py"
1 3 5 7
1*2*3*4
1#2#3#4&
PS C:\Users\LENOVO\Documents\Python.Modul 2>
```

2. Input



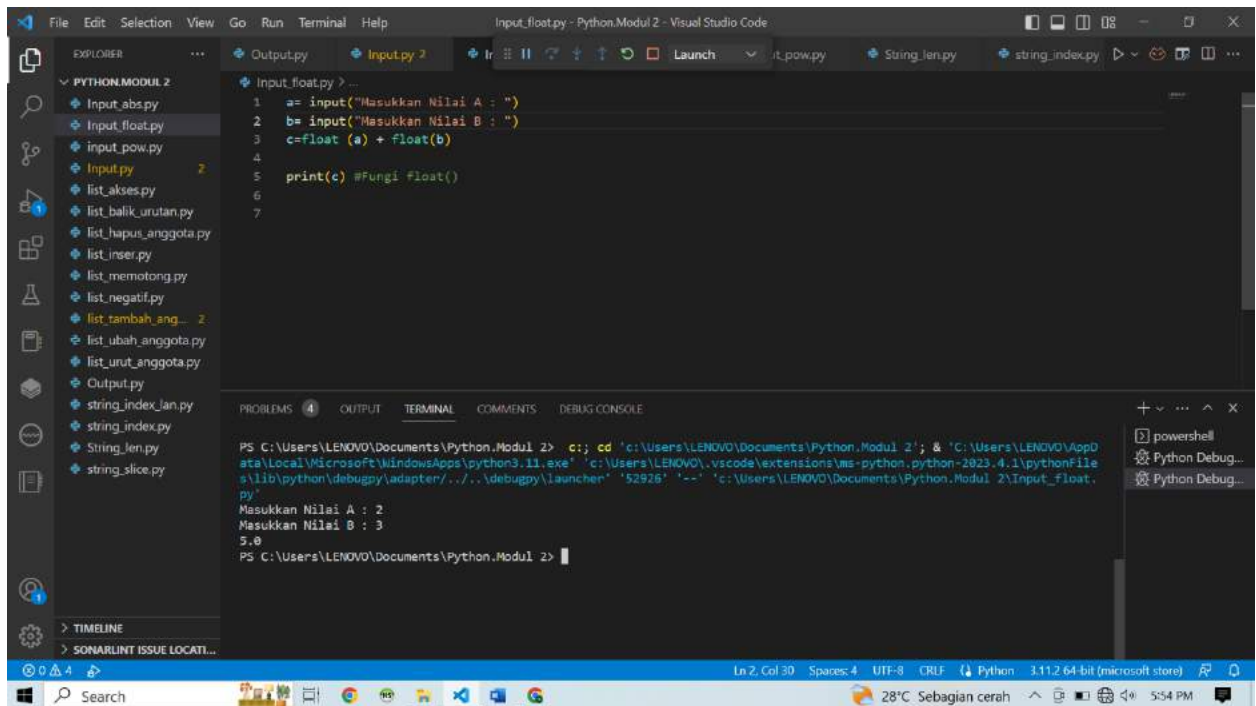
The screenshot shows the Visual Studio Code interface with the 'Input.py' file open. The file contains the following Python code:

```
1 a = input("Masukkan Nilai A : ")
2 b = input("Masukkan Nilai B : ")
3
4 print(a,b) #Kode input
5
6 a = input("Masukkan Nilai A : ")
7 b = input("Masukkan Nilai B : ")
8 c = a+b
9
10 print(c) #Kode input integer tanpa fungsi int()
11
12 a = int(input("Masukkan Nilai A : "))
13 b = int(input("Masukkan Nilai B : "))
14 c = a+b
15
16 print(c) #fungsi int() cara pertama
```

The terminal output shows the execution of the code with user input:

```
PS C:\Users\LENOVO\Documents\Python.Modul 2>
Masukkan Nilai A : 2
Masukkan Nilai B : 1
2 1
Masukkan Nilai A : 2
Masukkan Nilai B : 1
21
Masukkan Nilai A : 2
Masukkan Nilai B : 1
3
Masukkan Nilai A : 2
Masukkan Nilai B : 1
3
PS C:\Users\LENOVO\Documents\Python.Modul 2>
```

3. Input Float



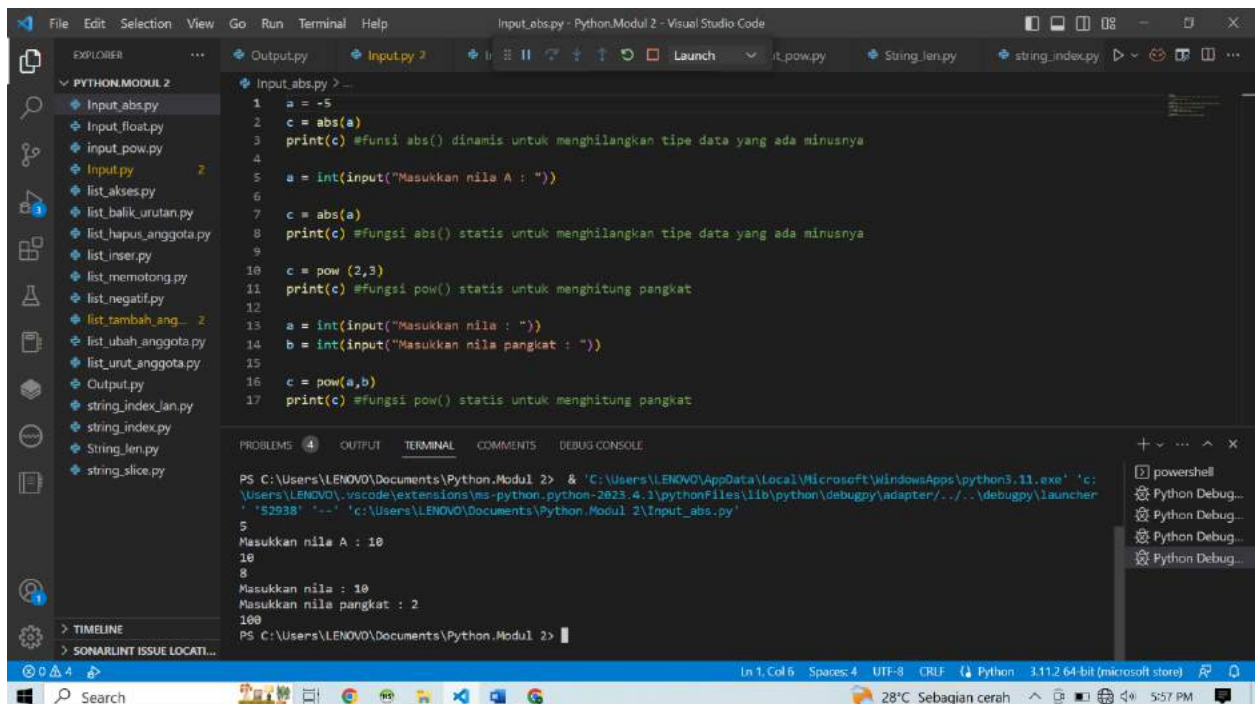
The screenshot shows the Visual Studio Code interface with the file 'Input_float.py' open. The code in the editor is as follows:

```
1 a= input("Masukkan Nilai A : ")
2 b= input("Masukkan Nilai B : ")
3 c=float (a) + float(b)
4
5 print(c) #Fungi Float()
6
7
```

The terminal output shows the execution of the script:

```
PS C:\Users\LENOVO\Documents\Python.Modul 2> c;; cd 'c:\Users\LENOVO\Documents\Python.Modul 2'; & 'C:\Users\LENOVO\AppData\Local\Microsoft\WindowsApps\python3.11.exe' 'c:\Users\LENOVO\.vscode\extensions\ms-python.python-2023.4.1\pythonFiles\lib\python\debugpy\adapter\..\..\debugpy\launcher' '52926' '--' 'c:\Users\LENOVO\Documents\Python.Modul 2\Input_float.py'
Masukkan Nilai A : 2
Masukkan Nilai B : 3
5.0
PS C:\Users\LENOVO\Documents\Python.Modul 2>
```

4. Input abs



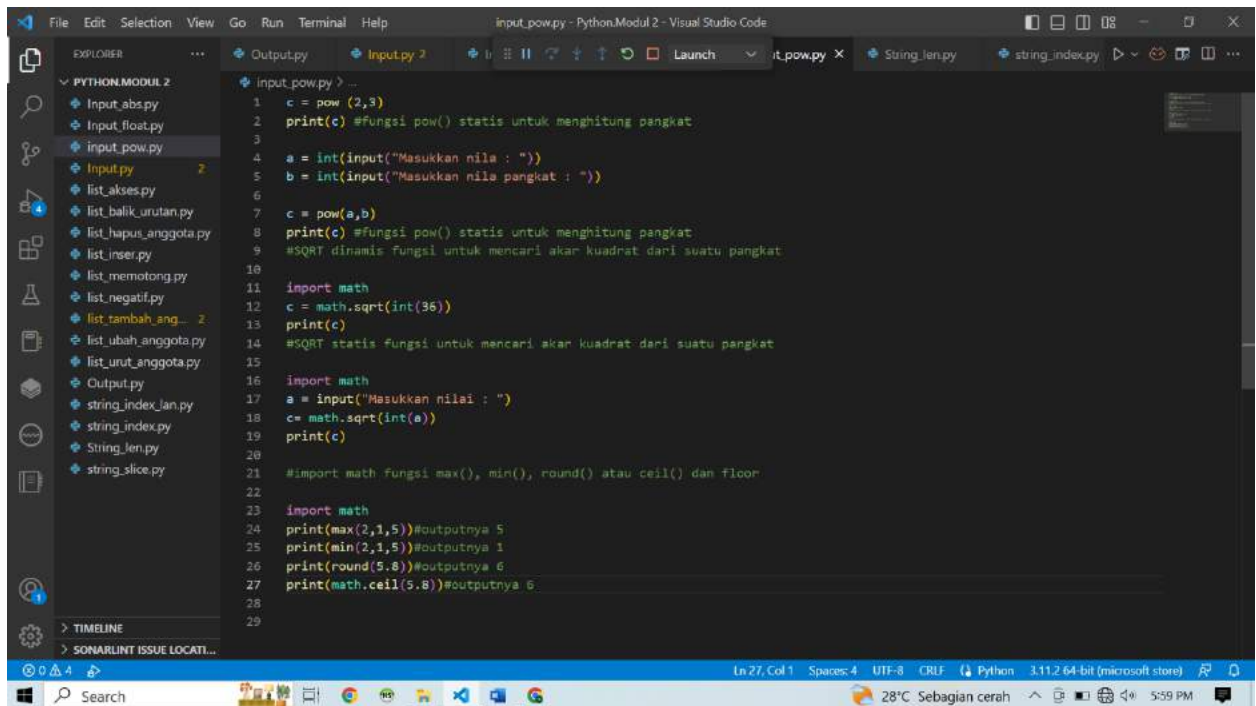
The screenshot shows the Visual Studio Code interface with the file 'Input_abs.py' open. The code in the editor is as follows:

```
1 a = -5
2 c = abs(a)
3 print(c) #fungsi abs() dinamis untuk menghilangkan tipe data yang ada minusnya
4
5 a = int(input("Masukkan nila A : "))
6
7 c = abs(a)
8 print(c) #fungsi abs() statis untuk menghilangkan tipe data yang ada minusnya
9
10 c = pow (2,3)
11 print(c) #fungsi pow() statis untuk menghitung pangkat
12
13 a = int(input("Masukkan nila : "))
14 b = int(input("Masukkan nila pangkat : "))
15
16 c = pow(a,b)
17 print(c) #fungsi pow() statis untuk menghitung pangkat
```

The terminal output shows the execution of the script:

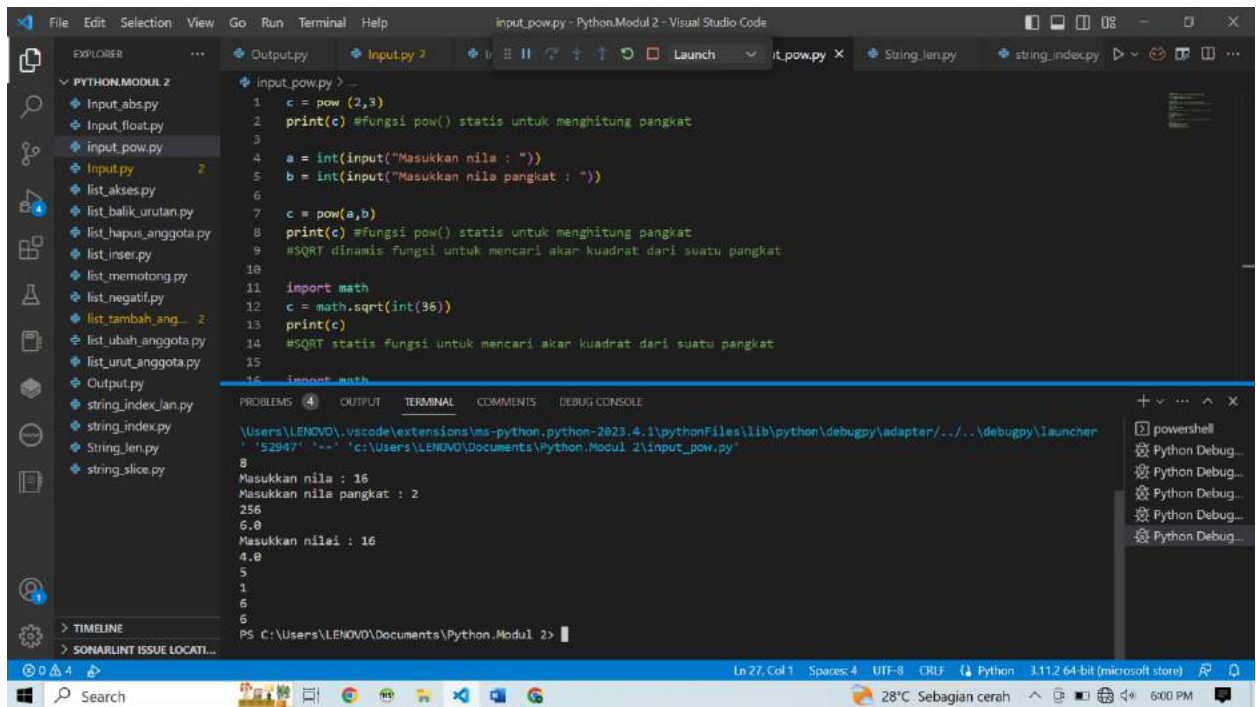
```
PS C:\Users\LENOVO\Documents\Python.Modul 2> & 'C:\Users\LENOVO\AppData\Local\Microsoft\WindowsApps\python3.11.exe' 'c:\Users\LENOVO\.vscode\extensions\ms-python.python-2023.4.1\pythonFiles\lib\python\debugpy\adapter\..\..\debugpy\launcher' '52938' '--' 'c:\Users\LENOVO\Documents\Python.Modul 2\Input_abs.py'
Masukkan nila A : 10
10
Masukkan nila : 10
Masukkan nila pangkat : 2
100
PS C:\Users\LENOVO\Documents\Python.Modul 2>
```

5. Input Fungsi Pow



```
1 c = pow(2,3)
2 print(c) #fungsi pow() statis untuk menghitung pangkat
3
4 a = int(input("Masukkan nila : "))
5 b = int(input("Masukkan nila pangkat : "))
6
7 c = pow(a,b)
8 print(c) #fungsi pow() statis untuk menghitung pangkat
9 #SQRT dinamis fungsi untuk mencari akar kuadrat dari suatu pangkat
10
11 import math
12 c = math.sqrt(int(36))
13 print(c)
14 #SQRT statis fungsi untuk mencari akar kuadrat dari suatu pangkat
15
16 import math
17 a = input("Masukkan nilai : ")
18 c= math.sqrt(int(a))
19 print(c)
20
21 #import math fungsi max(), min(), round() atau ceil() dan floor
22
23 import math
24 print(max(2,1,5))#outputnya 5
25 print(min(2,1,5))#outputnya 1
26 print(round(5.8))#outputnya 6
27 print(math.ceil(5.8))#outputnya 6
28
29
```

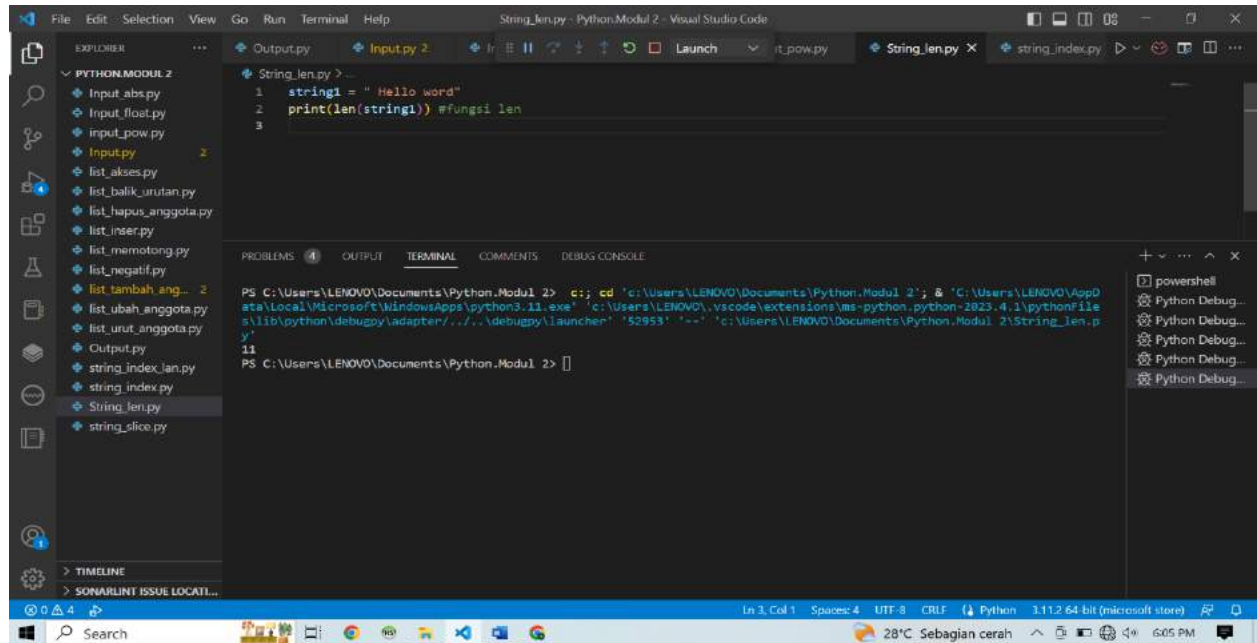
Output :



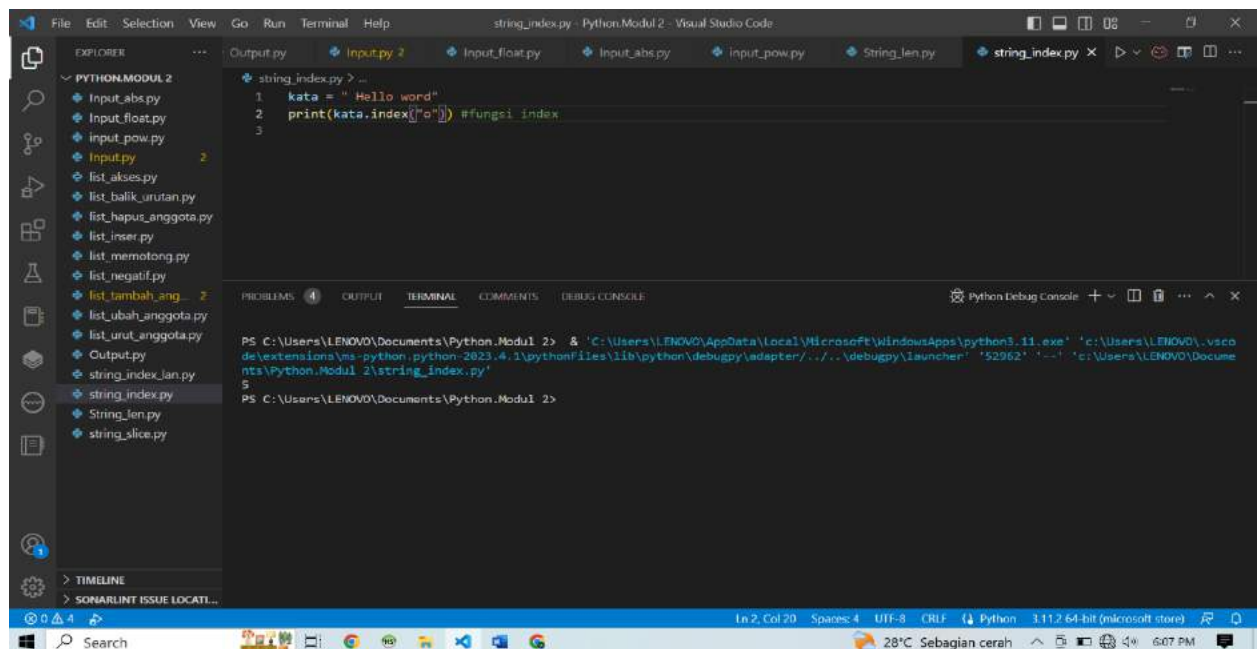
```
PS C:\Users\LENOVO\Documents\Python.Modul 2>
Masukkan nila : 16
Masukkan nila pangkat : 2
256
6.0
Masukkan nila : 16
4.0
5
1
6
6
```


6. Operator String

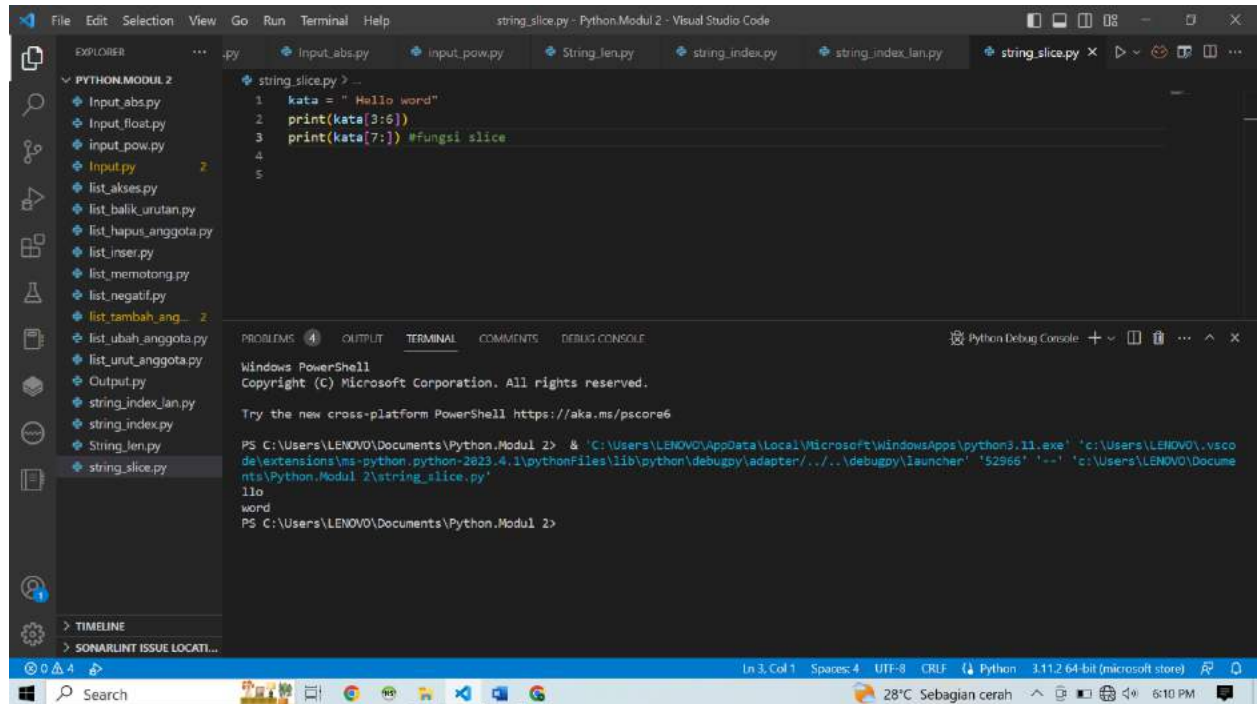
a. Strng Fungsi Len



b. String Fungsi Index



c. Range Slice



The screenshot shows the Visual Studio Code interface with a Python file named `string_slice.py` open. The file contains the following code:

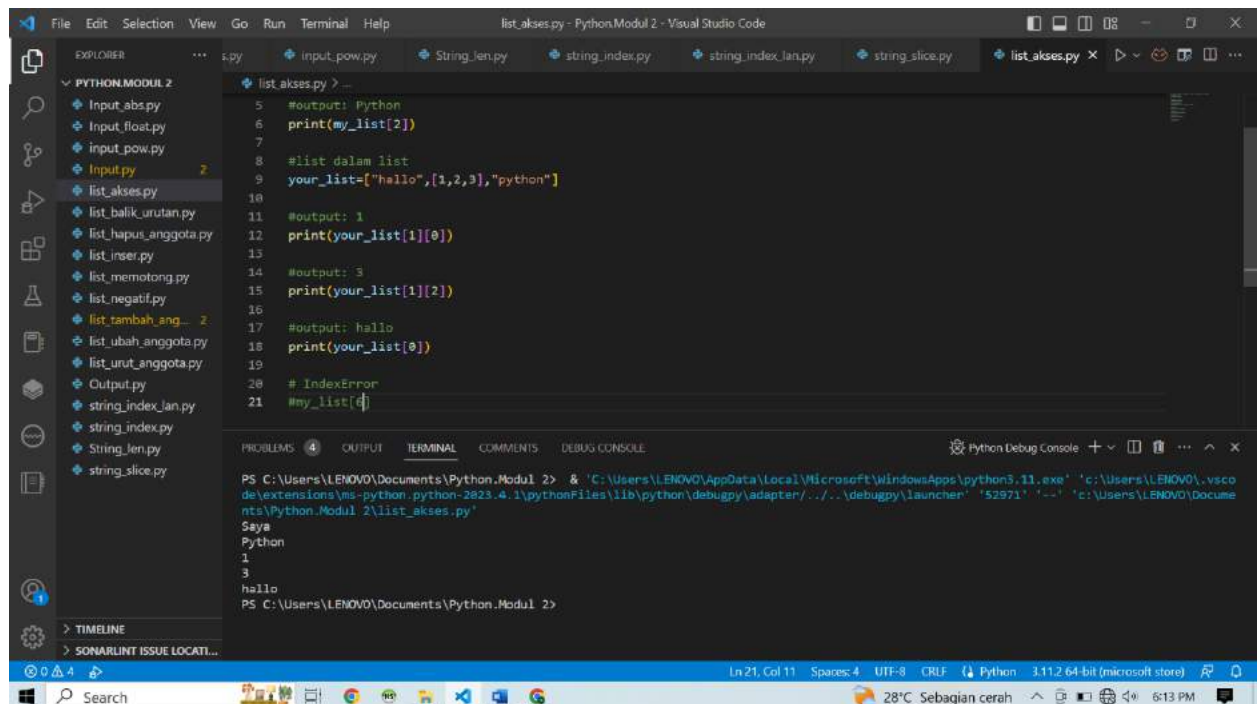
```
1 kata = " Hello word"
2 print(kata[3:6])
3 print(kata[7:]) #fungsi slice
4
5
```

The terminal output shows the execution of the script:

```
PS C:\Users\LENOVO\Documents\Python.Modul 2> & 'C:\Users\LENOVO\AppData\Local\Microsoft\WindowsApps\python3.11.exe' 'c:\Users\LENOVO\.vscode\extensions\ms-python.python-2023.4.1\pythonFiles\lib\python\debugpy\adapter\..\..\debugpy\launcher' '52966' '-' 'c:\Users\LENOVO\Documents\Python.Modul 2(string_slice.py)'
Hello
word
PS C:\Users\LENOVO\Documents\Python.Modul 2>
```

7. List

a. Mengakses Anggota List



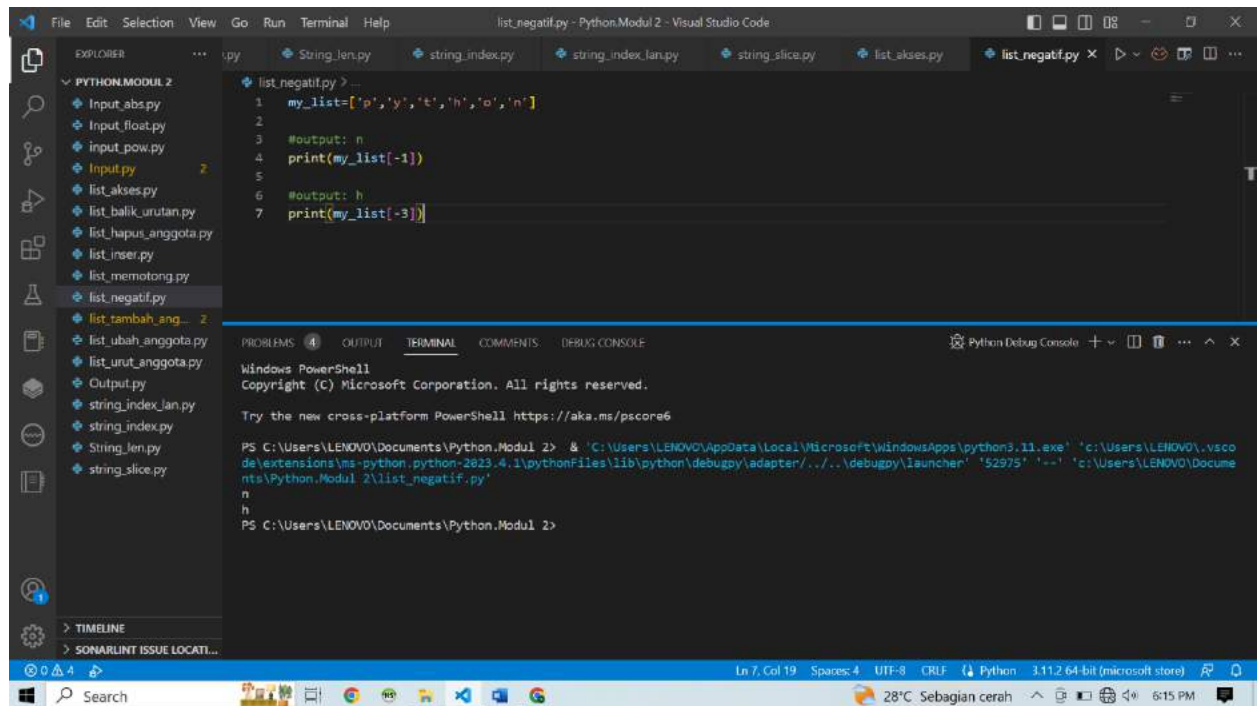
The screenshot shows the Visual Studio Code interface with a Python file named `list_akses.py` open. The file contains the following code:

```
5 #output: Python
6 print(my_list[2])
7
8 #list dalam list
9 your_list=["hallo",[1,2,3],"python"]
10
11 #output: 1
12 print(your_list[1][0])
13
14 #output: 3
15 print(your_list[1][2])
16
17 #output: hallo
18 print(your_list[0])
19
20 # IndexError
21 #my_list[4]
```

The terminal output shows the execution of the script:

```
PS C:\Users\LENOVO\Documents\Python.Modul 2> & 'C:\Users\LENOVO\AppData\Local\Microsoft\WindowsApps\python3.11.exe' 'c:\Users\LENOVO\.vscode\extensions\ms-python.python-2023.4.1\pythonFiles\lib\python\debugpy\adapter\..\..\debugpy\launcher' '52971' '-' 'c:\Users\LENOVO\Documents\Python.Modul 2(list_akses.py)'
Saya
Python
1
3
hallo
PS C:\Users\LENOVO\Documents\Python.Modul 2>
```

b. List dengan Indeks Negatif



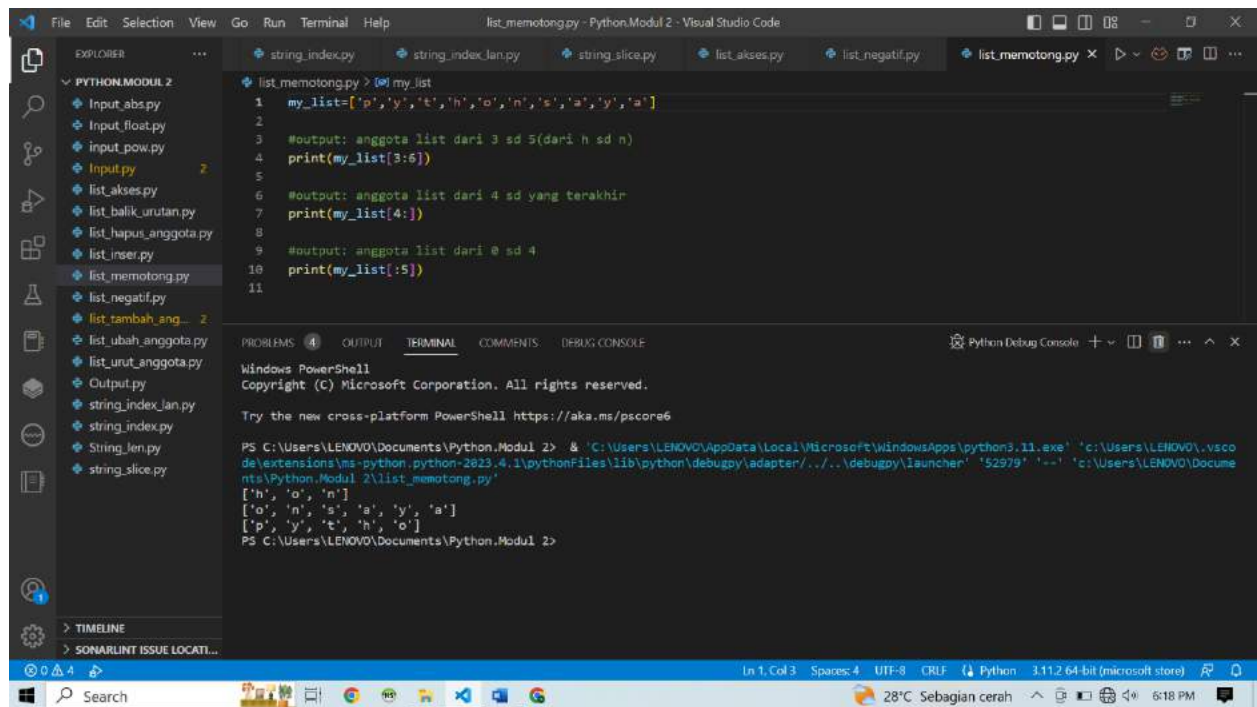
The screenshot shows the Visual Studio Code interface with a file explorer on the left containing a folder named 'PYTHON.MODUL 2'. The file 'list_negatif.py' is selected. The editor displays the following code:

```
1 my_list=['p','y','t','h','o','n']
2
3 #output: n
4 print(my_list[-1])
5
6 #output: h
7 print(my_list[-3])
```

The terminal at the bottom shows the execution of the script using PowerShell:

```
PS C:\Users\LENOVO\Documents\Python.Modul 2> & 'C:\Users\LENOVO\AppData\Local\Microsoft\WindowsApps\python3.11.exe' 'c:\Users\LENOVO\.vscode\extensions\ms-python.python-2023.4.1\pythonFiles\lib\python\debugpy\adapter\..\..\debugpy\launcher' '52975' '--' 'c:\Users\LENOVO\Documents\Python.Modul 2\list_negatif.py'
n
h
PS C:\Users\LENOVO\Documents\Python.Modul 2>
```

c. Memotong (Slicing) List



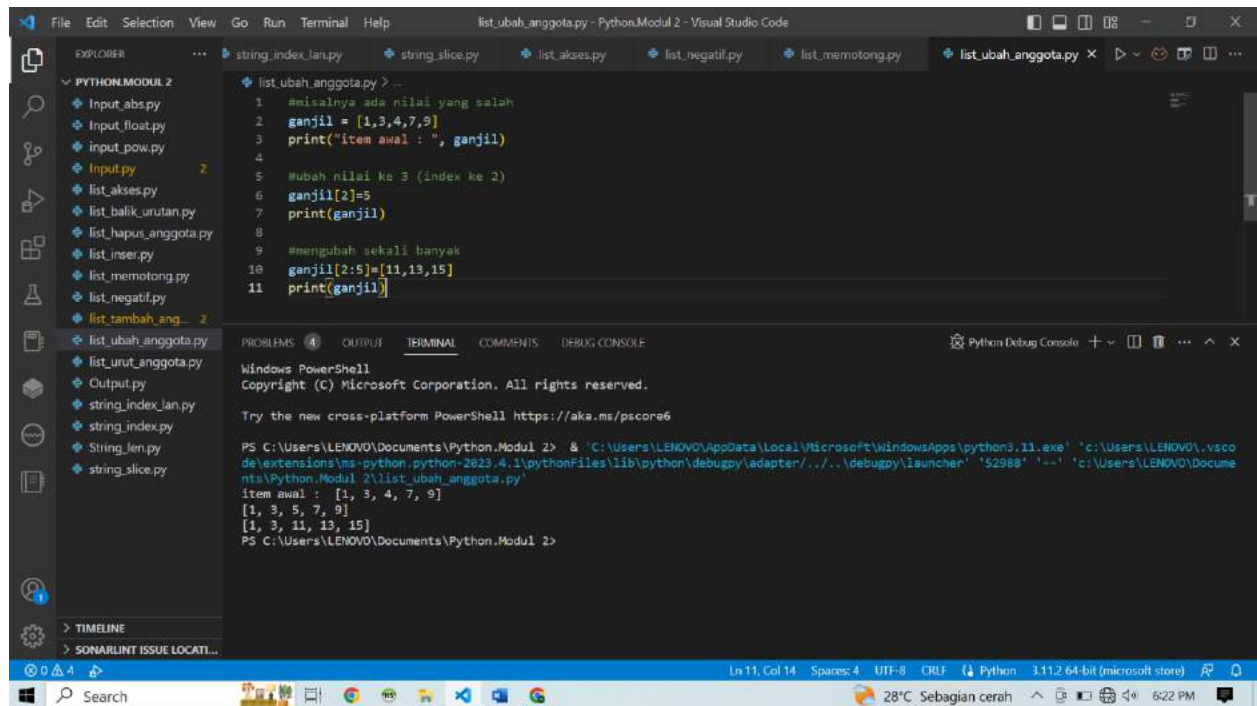
The screenshot shows the Visual Studio Code interface with a file explorer on the left containing a folder named 'PYTHON.MODUL 2'. The file 'list_memotong.py' is selected. The editor displays the following code:

```
1 my_list=['p','y','t','h','o','n','s','a','y','a']
2
3 #output: anggota list dari 3 sd 5(dari h sd n)
4 print(my_list[3:5])
5
6 #output: anggota list dari 4 sd yang terakhir
7 print(my_list[4:])
8
9 #output: anggota list dari 0 sd 4
10 print(my_list[:5])
11
```

The terminal at the bottom shows the execution of the script using PowerShell:

```
PS C:\Users\LENOVO\Documents\Python.Modul 2> & 'C:\Users\LENOVO\AppData\Local\Microsoft\WindowsApps\python3.11.exe' 'c:\Users\LENOVO\.vscode\extensions\ms-python.python-2023.4.1\pythonFiles\lib\python\debugpy\adapter\..\..\debugpy\launcher' '52979' '--' 'c:\Users\LENOVO\Documents\Python.Modul 2\list_memotong.py'
['h', 'o', 'n']
['o', 'n', 's', 'a', 'y', 'a']
['p', 'y', 't', 'h', 'o']
PS C:\Users\LENOVO\Documents\Python.Modul 2>
```

d. Mengubah Anggota List



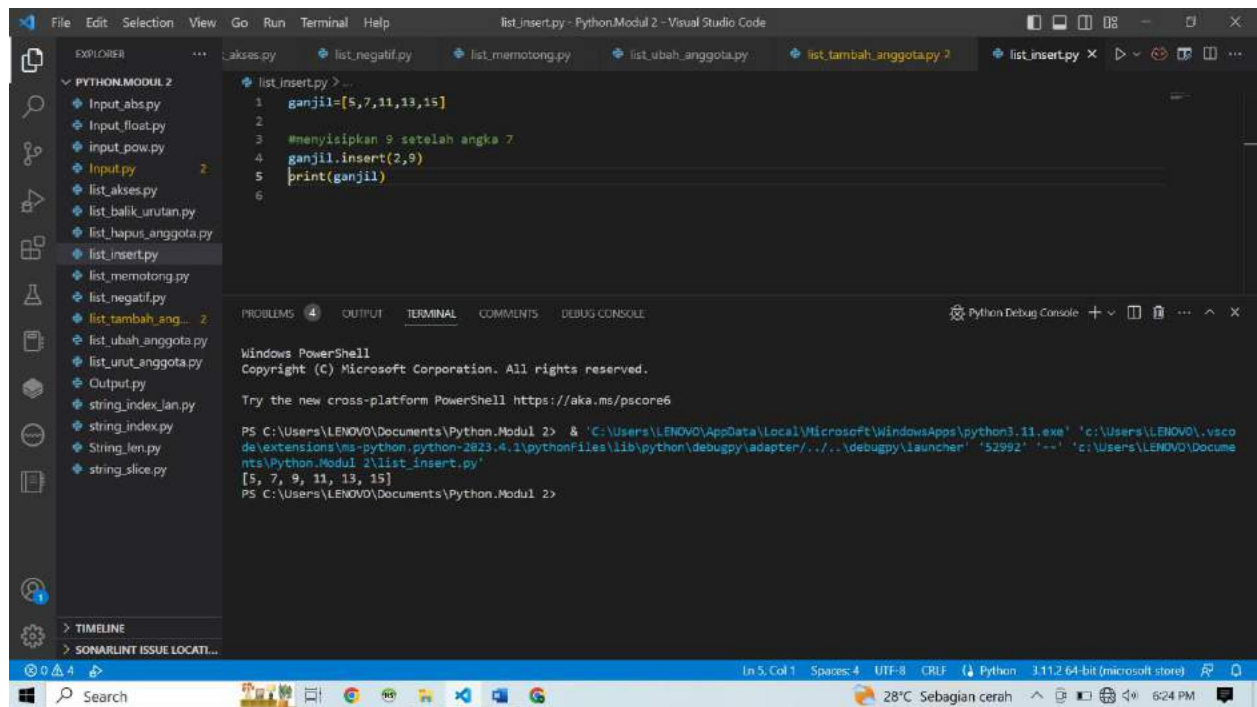
The screenshot shows the Visual Studio Code interface with a Python file named `list_ubah_anggota.py` open. The file contains the following code:

```
1 #misalnya ada nilai yang salah
2 ganjil = [1,3,4,7,9]
3 print("item awal : ", ganjil)
4
5 #ubah nilai ke 3 (index ke 2)
6 ganjil[2]=5
7 print(ganjil)
8
9 #mengubah sekali banyak
10 ganjil[2:5]=[11,13,15]
11 print(ganjil)
```

The terminal output shows the execution of the script:

```
PS C:\Users\LENOVO\Documents\Python.Modul 2> & 'C:\Users\LENOVO\AppData\Local\Microsoft\WindowsApps\python3.11.exe' 'c:\Users\LENOVO\.vscode\extensions\ms-python.python-2023.4.1\pythonFiles\lib\python\debugpy\adapter\..\..\debugpy\launcher' '52988' '--' 'c:\Users\LENOVO\Documents\Python.Modul 2\list_ubah_anggota.py'
item awal : [1, 3, 4, 7, 9]
[1, 3, 5, 7, 9]
[1, 3, 11, 13, 15]
PS C:\Users\LENOVO\Documents\Python.Modul 2>
```

e. Menyisipkan Anggota List



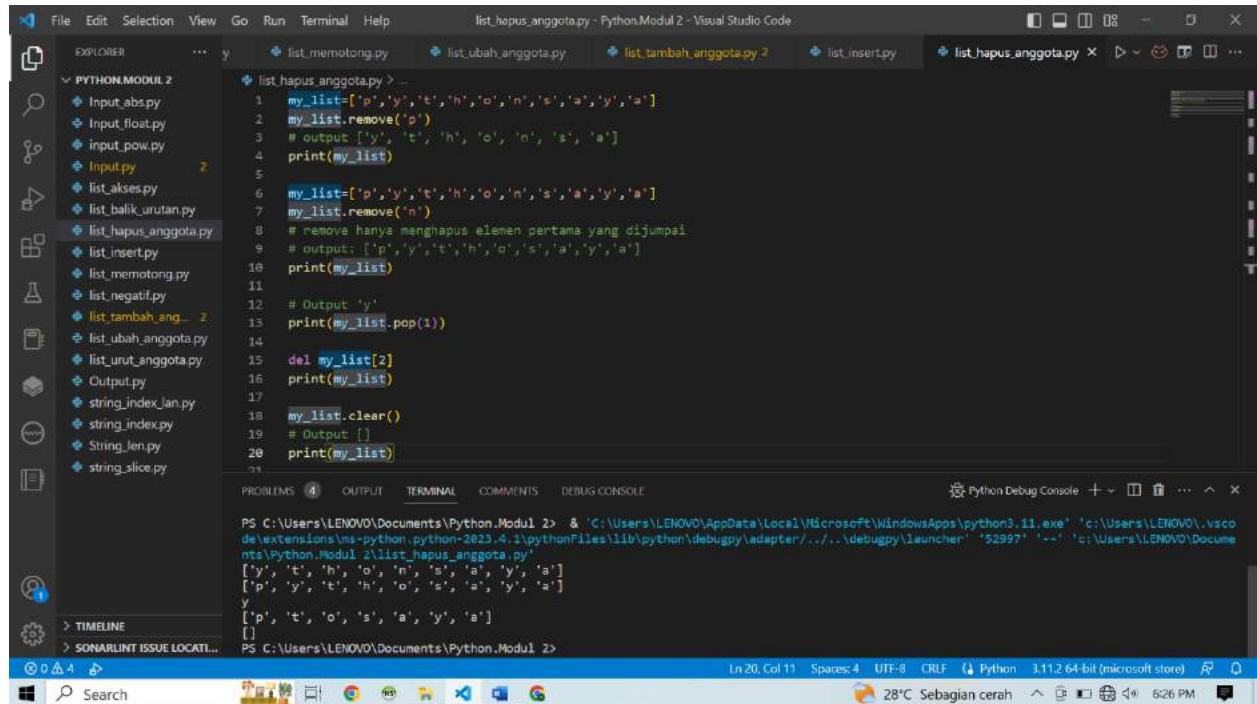
The screenshot shows the Visual Studio Code interface with a Python file named `list_insert.py` open. The file contains the following code:

```
1 ganjil=[5,7,11,13,15]
2
3 #menyisipkan 9 setelah angka 7
4 ganjil.insert(2,9)
5 print(ganjil)
6
```

The terminal output shows the execution of the script:

```
PS C:\Users\LENOVO\Documents\Python.Modul 2> & 'C:\Users\LENOVO\AppData\Local\Microsoft\WindowsApps\python3.11.exe' 'c:\Users\LENOVO\.vscode\extensions\ms-python.python-2023.4.1\pythonFiles\lib\python\debugpy\adapter\..\..\debugpy\launcher' '52992' '--' 'c:\Users\LENOVO\Documents\Python.Modul 2\list_insert.py'
[5, 7, 9, 11, 13, 15]
PS C:\Users\LENOVO\Documents\Python.Modul 2>
```


f. Menghapus Anggota List



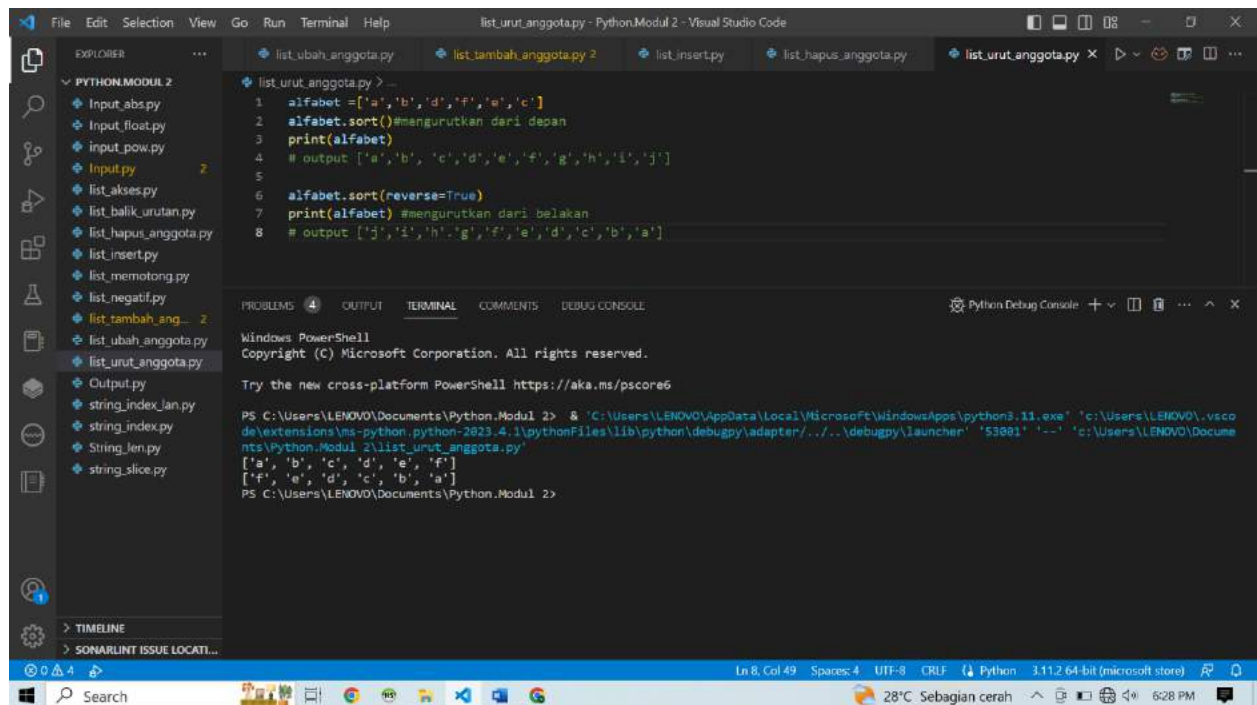
```
1 my_list=['p','y','t','h','o','n','s','a','y','a']
2 my_list.remove('p')
3 # output ['y', 't', 'h', 'o', 'n', 's', 'a']
4 print(my_list)
5
6 my_list=['p','y','t','h','o','n','s','a','y','a']
7 my_list.remove('n')
8 # remove hanya menghapus elemen pertama yang dijumpai
9 # output: ['p','y','t','h','o','s','a','y','a']
10 print(my_list)
11
12 # Output 'y'
13 print(my_list.pop(1))
14
15 del my_list[2]
16 print(my_list)
17
18 my_list.clear()
19 # Output []
20 print(my_list)
```

PS C:\Users\LENOVO\Documents\Python.Modul 2> & 'C:\Users\LENOVO\AppData\Local\Microsoft\WindowsApps\python3.11.exe' 'c:\Users\LENOVO\.vscode\extensions\ms-python.python-2023.4.1\pythonFiles\lib\python\debugpy\adapter\..\..\debugpy\launcher' '52997' '--' 'c:\Users\LENOVO\Documents\Python.Modul 2\list_hapus_anggota.py'

['y', 't', 'h', 'o', 'n', 's', 'a', 'y', 'a']
['p', 'y', 't', 'h', 'o', 's', 'a', 'y', 'a']
y
['p', 't', 'o', 's', 'a', 'y', 'a']
[]

PS C:\Users\LENOVO\Documents\Python.Modul 2>

g. Mengurutkan Anggota List



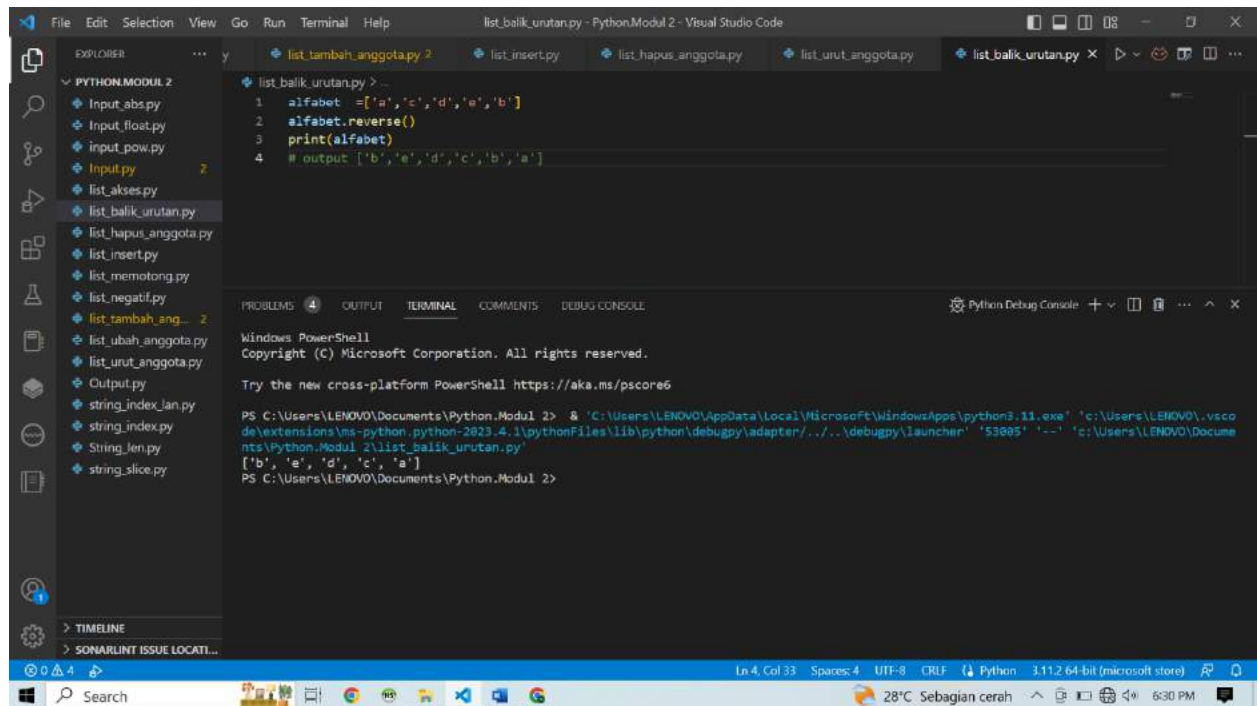
```
1 alfabet=['a','b','d','f','e','c']
2 alfabet.sort()#mengurutkan dari depan
3 print(alfabet)
4 # output ['a','b', 'c','d','e','f','g','h','i','j']
5
6 alfabet.sort(reverse=True)
7 print(alfabet) #mengurutkan dari belakang
8 # output ['j','i','h','g','f','e','d','c','b','a']
```

PS C:\Users\LENOVO\Documents\Python.Modul 2> & 'C:\Users\LENOVO\AppData\Local\Microsoft\WindowsApps\python3.11.exe' 'c:\Users\LENOVO\.vscode\extensions\ms-python.python-2023.4.1\pythonFiles\lib\python\debugpy\adapter\..\..\debugpy\launcher' '53881' '--' 'c:\Users\LENOVO\Documents\Python.Modul 2\list_urut_anggota.py'

['a', 'b', 'c', 'd', 'e', 'f']
['f', 'e', 'd', 'c', 'b', 'a']

PS C:\Users\LENOVO\Documents\Python.Modul 2>

h. Membalik Anggota List



The screenshot shows the Visual Studio Code interface with a Python file named `list_balik_urutan.py` open. The file contains the following code:

```
1 alfabet = ['a', 'c', 'd', 'e', 'b']
2 alfabet.reverse()
3 print(alfabet)
4 # output ['b', 'e', 'd', 'c', 'a']
```

The Explorer sidebar on the left shows a project named `PYTHON.MODUL 2` with various files, including `list_balik_urutan.py` which is currently selected.

The bottom panel shows the `TERMINAL` tab with the following output:

```
Windows PowerShell
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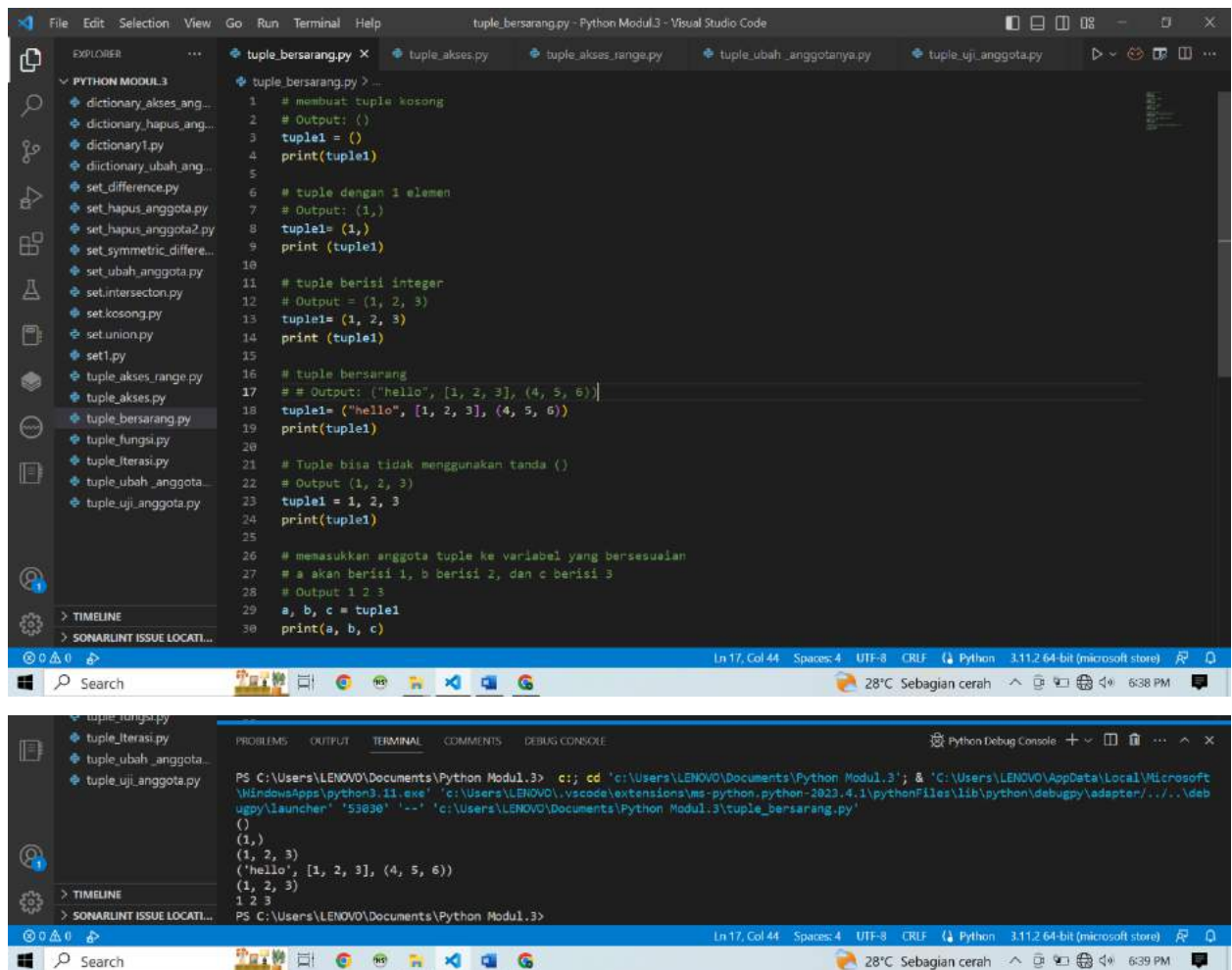
Try the new cross-platform PowerShell https://aka.ms/pscore6

PS C:\Users\LENOVO\Documents\Python.Modul 2> & 'C:\Users\LENOVO\AppData\Local\Microsoft\WindowsApps\python3.11.exe' 'c:\Users\LENOVO\.vscode\extensions\ms-python.python-2023.4.1\pythonFiles\lib\python\debugpy\adapter\..\..\debugpy\launcher' '53885' '--' 'c:\Users\LENOVO\Documents\Python.Modul 2\list_balik_urutan.py'
['b', 'e', 'd', 'c', 'a']
PS C:\Users\LENOVO\Documents\Python.Modul 2>
```

The status bar at the bottom indicates the current position is `Ln 4, Col 33`, the encoding is `UTF-8`, and the file is opened with `Python 11.2 64-bit (microsoft store)`.

Python – Modul 3

1. Membuat Tuple



The image shows a Visual Studio Code editor window with a Python file named `tuple_bersarang.py`. The code demonstrates various ways to create and use tuples. The Explorer sidebar on the left shows a project named 'PYTHON MODUL 3' with several files, including `tuple_bersarang.py`, which is currently selected.

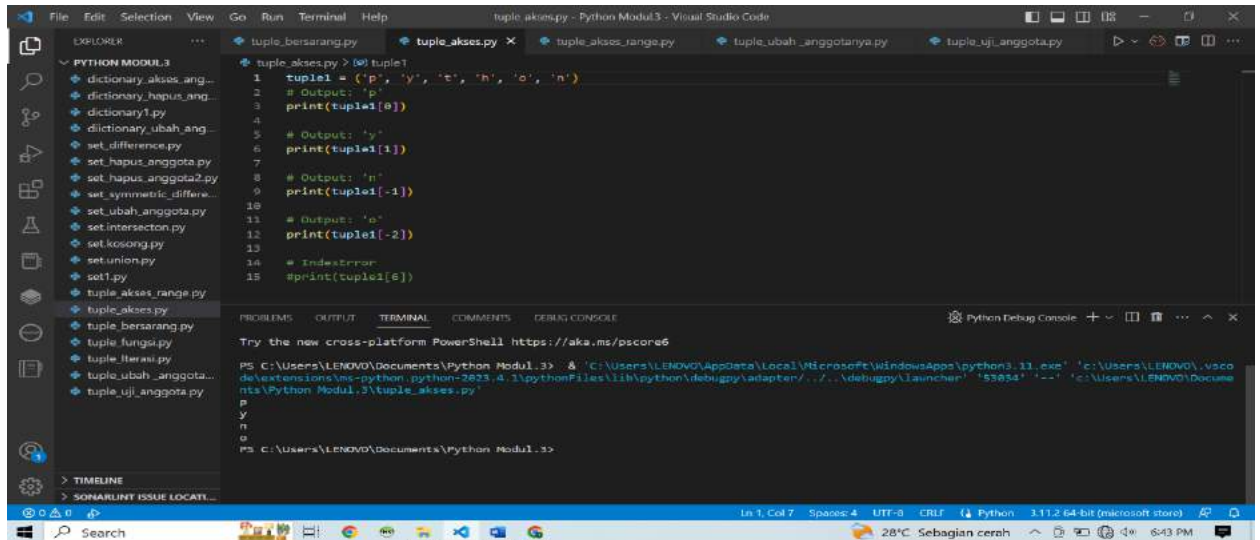
```
1 # membuat tuple kosong
2 # Output: ()
3 tuple1 = ()
4 print(tuple1)
5
6 # tuple dengan 1 elemen
7 # Output: (1,)
8 tuple1 = (1,)
9 print (tuple1)
10
11 # tuple berisi integer
12 # Output = (1, 2, 3)
13 tuple1= (1, 2, 3)
14 print (tuple1)
15
16 # tuple bersarang
17 # # Output: ("hello", [1, 2, 3], (4, 5, 6))
18 tuple1= ("hello", [1, 2, 3], (4, 5, 6))
19 print(tuple1)
20
21 # Tuple bisa tidak menggunakan tanda ()
22 # Output (1, 2, 3)
23 tuple1 = 1, 2, 3
24 print(tuple1)
25
26 # memasukkan anggota tuple ke variabel yang bersesuaian
27 # a akan berisi 1, b berisi 2, dan c berisi 3
28 # Output 1 2 3
29 a, b, c = tuple1
30 print(a, b, c)
```

The bottom panel of the editor shows the 'TERMINAL' tab, which displays the output of the Python script. The command executed is `PS C:\Users\LENOVO\Documents\Python Modul 3> c:\Users\LENOVO\AppData\Local\Microsoft\WindowsApps\python3.11.exe c:\Users\LENOVO\Documents\Python Modul 3\tuple_bersarang.py`. The output is:

```
()
(1,)
(1, 2, 3)
('hello', [1, 2, 3], (4, 5, 6))
(1, 2, 3)
1 2 3
```

The status bar at the bottom indicates the file is at line 17, column 44, with 4 spaces, UTF-8 encoding, and CR-LF line endings. The system tray shows the temperature as 28°C and the time as 6:38 PM.

2. Mengakses Anggota Tuple



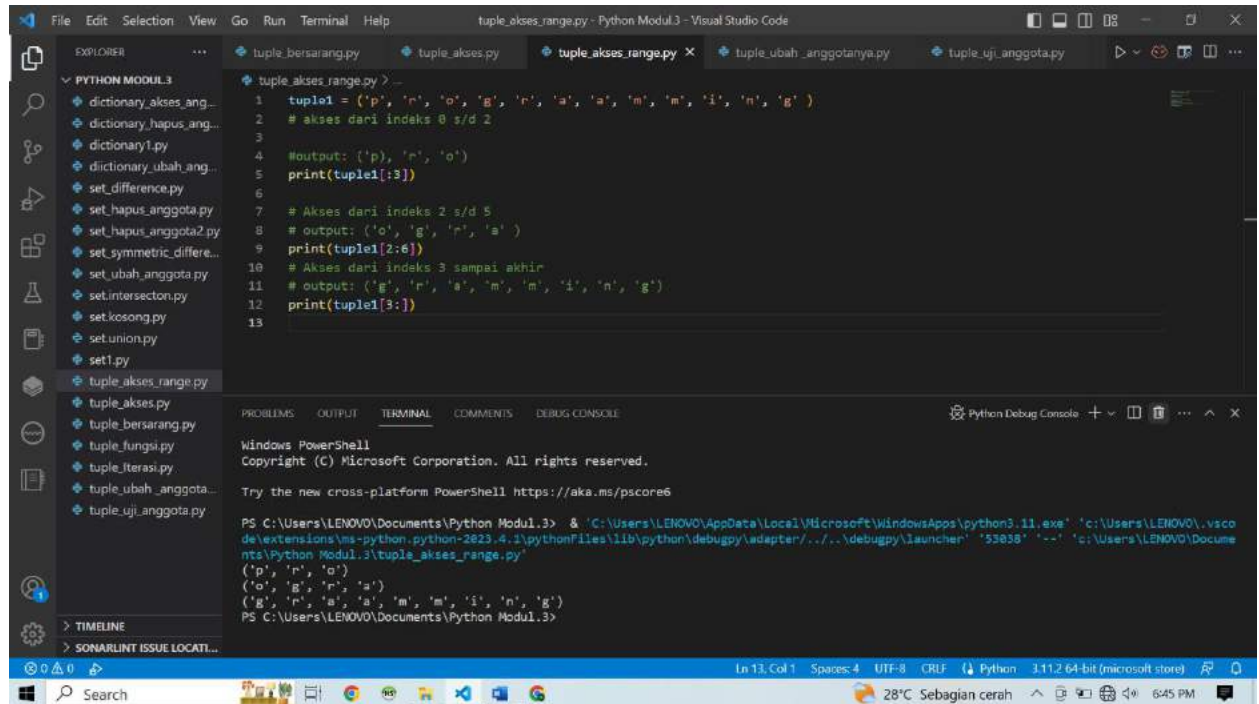
The screenshot shows the Visual Studio Code interface with a Python file named `tuple_akses.py` open. The Explorer panel on the left shows a project named `PYTHON MODUL 3` with various files. The main editor displays the following code:

```
1 tuple1 = ('p', 'y', 'e', 'h', 'o', 'n')
2 # Output: 'p'
3 print(tuple1[0])
4
5 # Output: 'y'
6 print(tuple1[1])
7
8 # Output: 'n'
9 print(tuple1[-1])
10
11 # Output: 'e'
12 print(tuple1[-2])
13
14 # IndexError
15 # print(tuple1[6])
```

The TERMINAL panel at the bottom shows the command prompt output:

```
PS C:\Users\LENOVO\Documents\Python Modul 3> & 'C:\Users\LENOVO\AppData\Local\Microsoft\WindowsApps\python3.11.exe' 'c:\Users\LENOVO\Documents\Python Modul 3\tuple_akses.py'
p
y
n
e
PS C:\Users\LENOVO\Documents\Python Modul 3>
```

a. Mengakses Tuple dengan range



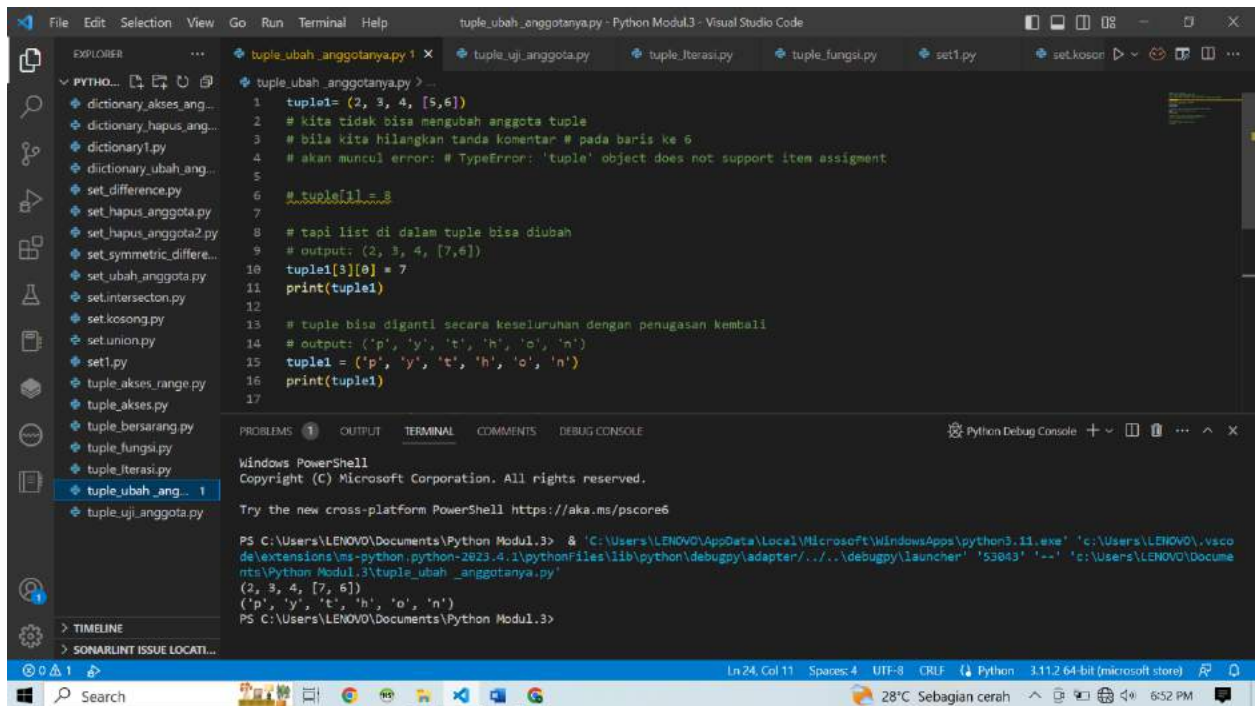
The screenshot shows the Visual Studio Code interface with a Python file named `tuple_akses_range.py` open. The Explorer panel on the left shows the same project. The main editor displays the following code:

```
1 tuple1 = ('p', 'n', 'o', 'g', 'n', 'a', 'a', 'm', 'm', 'i', 'n', 'g')
2 # akses dari indeks 0 s/d 2
3
4 # output: ('p', 'n', 'o')
5 print(tuple1[:3])
6
7 # Akses dari indeks 2 s/d 5
8 # output: ('o', 'g', 'n', 'a')
9 print(tuple1[2:6])
10 # Akses dari indeks 3 sampai akhir
11 # output: ('g', 'n', 'a', 'a', 'm', 'm', 'i', 'n', 'g')
12 print(tuple1[3:])
13
```

The TERMINAL panel at the bottom shows the command prompt output:

```
PS C:\Users\LENOVO\Documents\Python Modul 3> & 'C:\Users\LENOVO\AppData\Local\Microsoft\WindowsApps\python3.11.exe' 'c:\Users\LENOVO\Documents\Python Modul 3\tuple_akses_range.py'
('p', 'n', 'o')
('o', 'g', 'n', 'a')
('g', 'n', 'a', 'a', 'm', 'm', 'i', 'n', 'g')
```


3. Mengubah Anggota Tuple

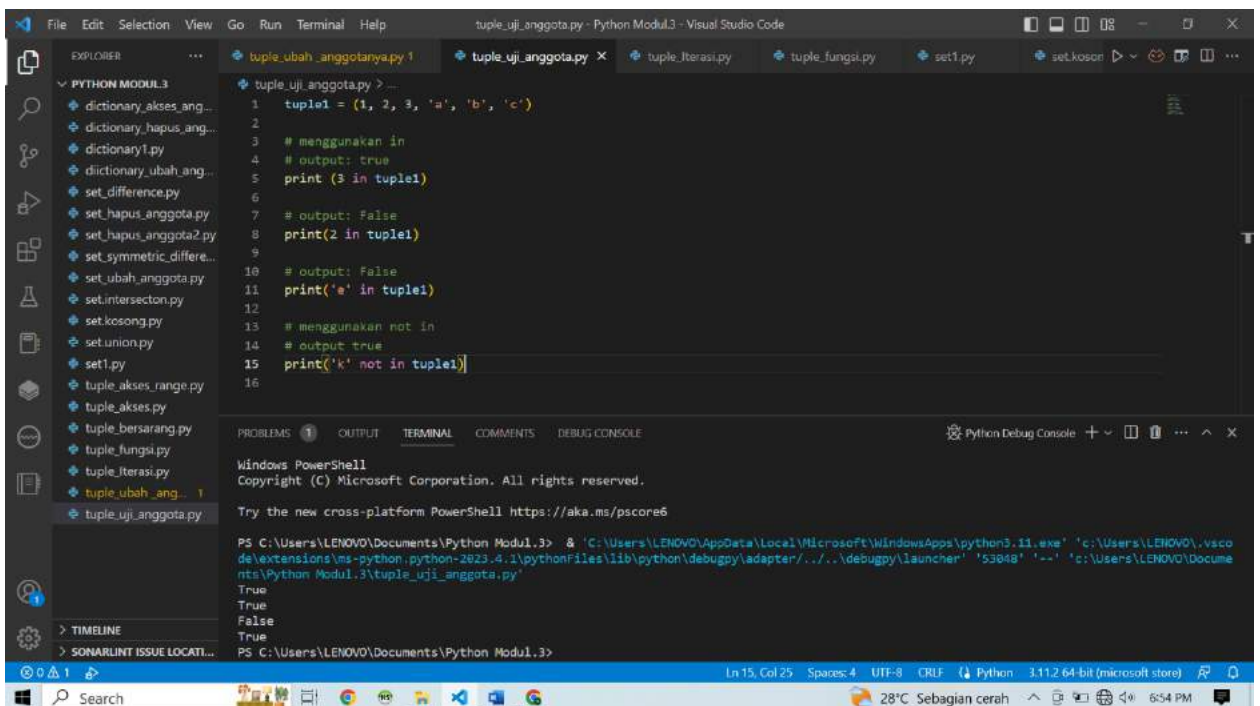


```
tuple_ubah_anggotanya.py
1 tuple1 = (2, 3, 4, [5,6])
2 # kita tidak bisa mengubah anggota tuple
3 # bila kita hilangkan tanda komentar # pada baris ke 6
4 # akan muncul error: # TypeError: 'tuple' object does not support item assignment
5
6 # tuple[3][0] = 8
7
8 # tapi list di dalam tuple bisa diubah
9 # output: (2, 3, 4, [7,6])
10 tuple1[3][0] = 7
11 print(tuple1)
12
13 # tuple bisa diganti secara keseluruhan dengan penugasan kembali
14 # output: ('p', 'y', 't', 'h', 'o', 'n')
15 tuple1 = ('p', 'y', 't', 'h', 'o', 'n')
16 print(tuple1)
17
```

Windows PowerShell
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```
PS C:\Users\LENOVO\Documents\Python Modul3> & 'C:\Users\LENOVO\AppData\Local\Microsoft\WindowsApps\python3.11.exe' 'c:\Users\LENOVO\.vscode\extensions\ms-python.python-2023.4.1\pythonFiles\lib\python\debugpy\adapter\..\..\debugpy\launcher' '53843' '--' 'c:\Users\LENOVO\Documents\Python Modul3\tuple_ubah_anggotanya.py'
(2, 3, 4, [7, 6])
('p', 'y', 't', 'h', 'o', 'n')
```

4. Menguji Keanggotaan Tuple

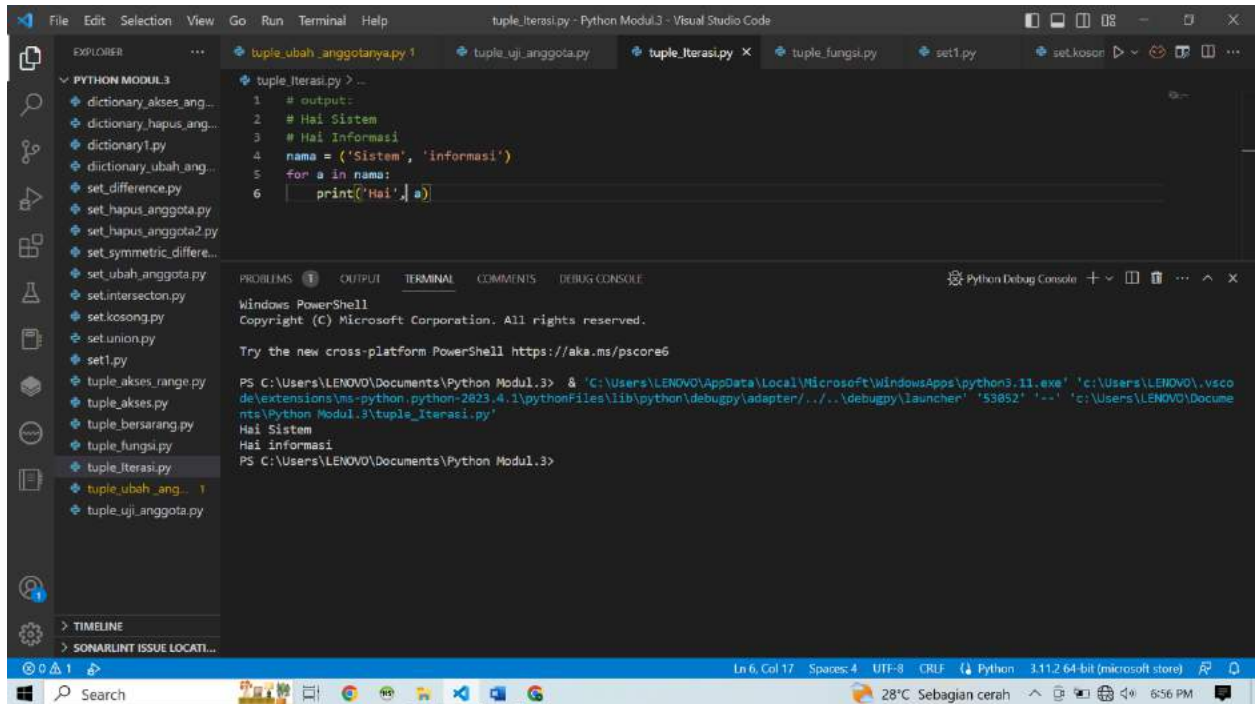


```
tuple_uji_anggota.py
1 tuple1 = (1, 2, 3, 'a', 'b', 'c')
2
3 # menggunakan in
4 # output: true
5 print(3 in tuple1)
6
7 # output: False
8 print(2 in tuple1)
9
10 # output: False
11 print('e' in tuple1)
12
13 # menggunakan not in
14 # output true
15 print('k' not in tuple1)
16
```

Windows PowerShell
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```
PS C:\Users\LENOVO\Documents\Python Modul3> & 'C:\Users\LENOVO\AppData\Local\Microsoft\WindowsApps\python3.11.exe' 'c:\Users\LENOVO\.vscode\extensions\ms-python.python-2023.4.1\pythonFiles\lib\python\debugpy\adapter\..\..\debugpy\launcher' '53848' '--' 'c:\Users\LENOVO\Documents\Python Modul3\tuple_uji_anggota.py'
True
True
False
True
```

5. Iterasi pada Tuple



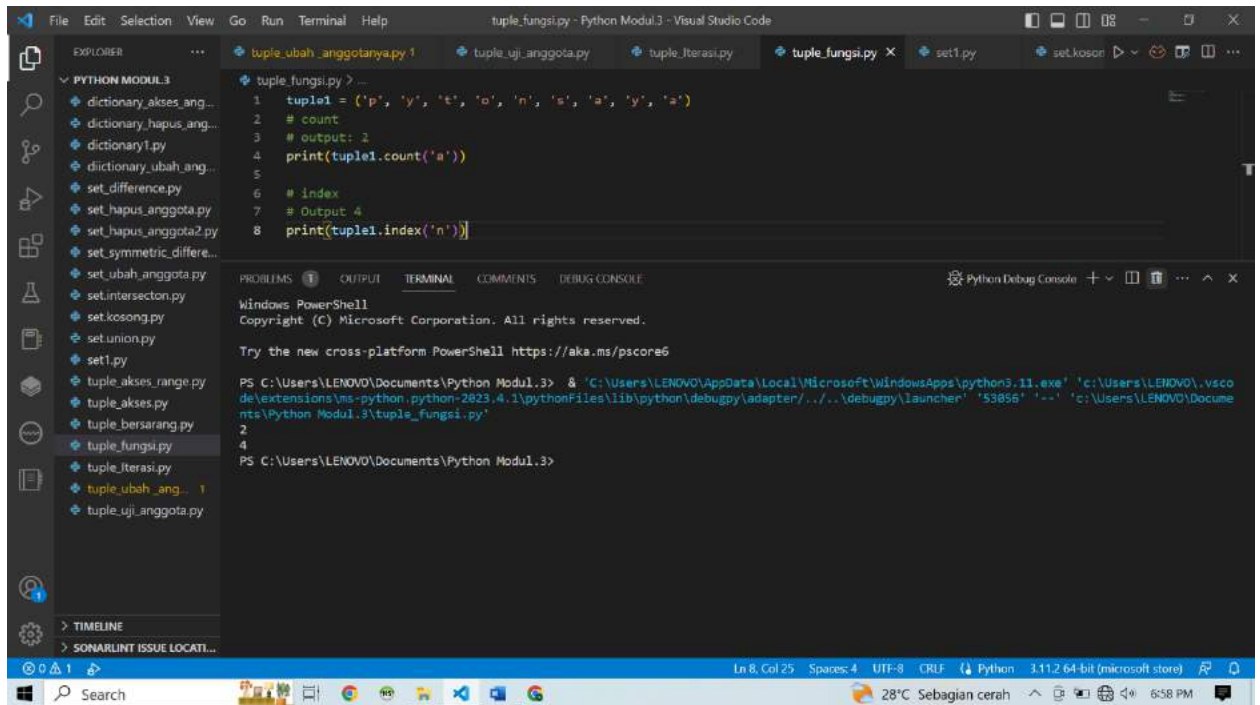
The screenshot shows the Visual Studio Code interface with a Python file named `tuple_iterasi.py` open. The file contains the following code:

```
1 # output:
2 # Hai Sistem
3 # Hai Informasi
4 name = ('Sistem', 'informasi')
5 for a in name:
6     print('Hai', a)
```

The terminal output shows the execution of the script:

```
PS C:\Users\LENOVO\Documents\Python Modul.3> & 'C:\Users\LENOVO\AppData\Local\Microsoft\WindowsApps\python3.11.exe' 'c:\Users\LENOVO\.vscode\extensions\ms-python.python-2022.4.1\pythonFiles\lib\python\debugpy\adapter\..\..\debugpy\launcher' '53852' '--' 'c:\Users\LENOVO\Documents\Python Modul.3\tuple_iterasi.py'
Hai Sistem
Hai informasi
PS C:\Users\LENOVO\Documents\Python Modul.3>
```

6. Metode dan Fungsi Bawaan Tuple



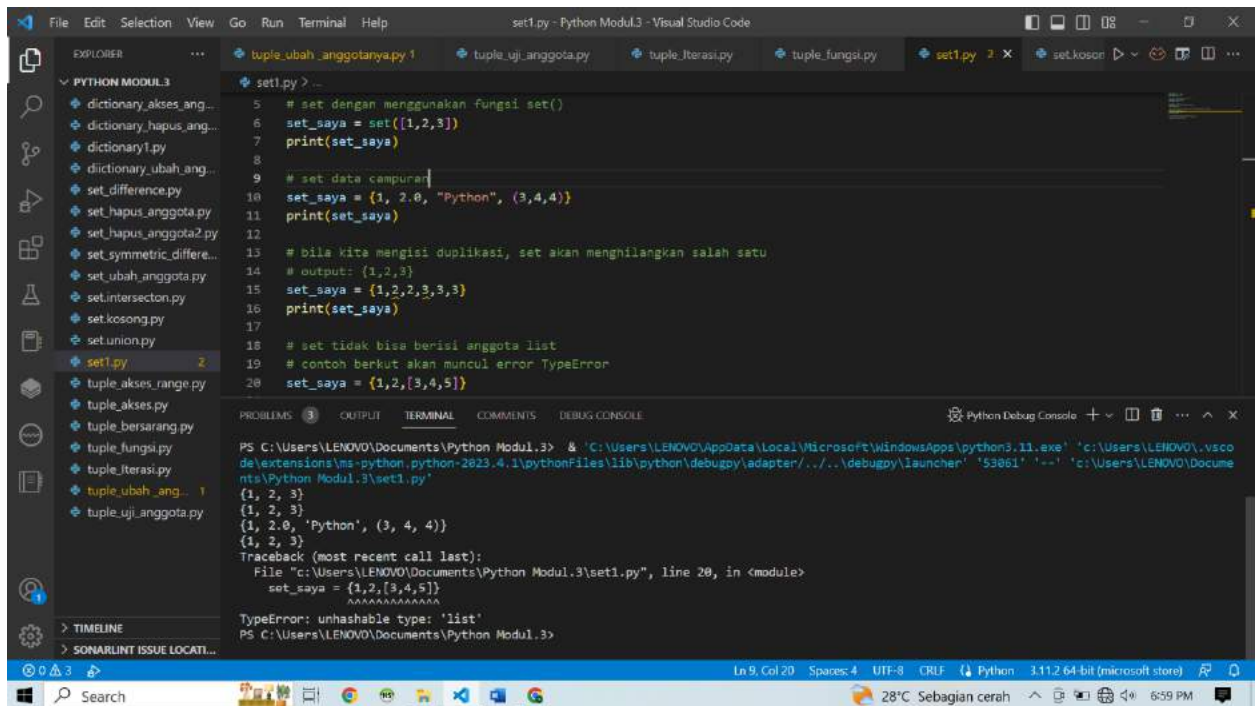
The screenshot shows the Visual Studio Code interface with a Python file named `tuple_fungsi.py` open. The file contains the following code:

```
1 tuple1 = ('p', 'y', 't', 'o', 'n', 's', 'a', 'y', 'a')
2 # count
3 # output: 2
4 print(tuple1.count('a'))
5
6 # index
7 # Output 4
8 print(tuple1.index('n'))
```

The terminal output shows the execution of the script:

```
PS C:\Users\LENOVO\Documents\Python Modul.3> & 'C:\Users\LENOVO\AppData\Local\Microsoft\WindowsApps\python3.11.exe' 'c:\Users\LENOVO\.vscode\extensions\ms-python.python-2022.4.1\pythonFiles\lib\python\debugpy\adapter\..\..\debugpy\launcher' '53856' '--' 'c:\Users\LENOVO\Documents\Python Modul.3\tuple_fungsi.py'
2
4
PS C:\Users\LENOVO\Documents\Python Modul.3>
```

7. Membuat Set



```
File Edit Selection View Go Run Terminal Help
set1.py - Python Modul3 - Visual Studio Code

EXPLORER
PYTHON MODUL3
  dictionary_akses_ang...
  dictionary_hapus_ang...
  dictionary1.py
  dictionary_ubah_ang...
  set_difference.py
  set_hapus_anggota.py
  set_hapus_anggota2.py
  set_symmetric_differe...
  set_ubah_anggota.py
  set.intersection.py
  set.kosong.py
  set.union.py
  set1.py
  tuple_akses_range.py
  tuple_akses.py
  tuple_bersarang.py
  tuple_fungsi.py
  tuple_iterasi.py
  tuple_ubah_ang...
  tuple_uji_anggota.py

set1.py
5 # set dengan menggunakan fungsi set()
6 set_saya = set([1,2,3])
7 print(set_saya)
8
9 # set data campuran
10 set_saya = {1, 2.0, "Python", (3,4,4)}
11 print(set_saya)
12
13 # bila kita mengisi duplikasi, set akan menghilangkan salah satu
14 # output: {1,2,3}
15 set_saya = {1,2,2,3,3,3}
16 print(set_saya)
17
18 # set tidak bisa berisi anggota list
19 # contoh berikut akan muncul error TypeError
20 set_saya = {1,2,[3,4,5]}
```

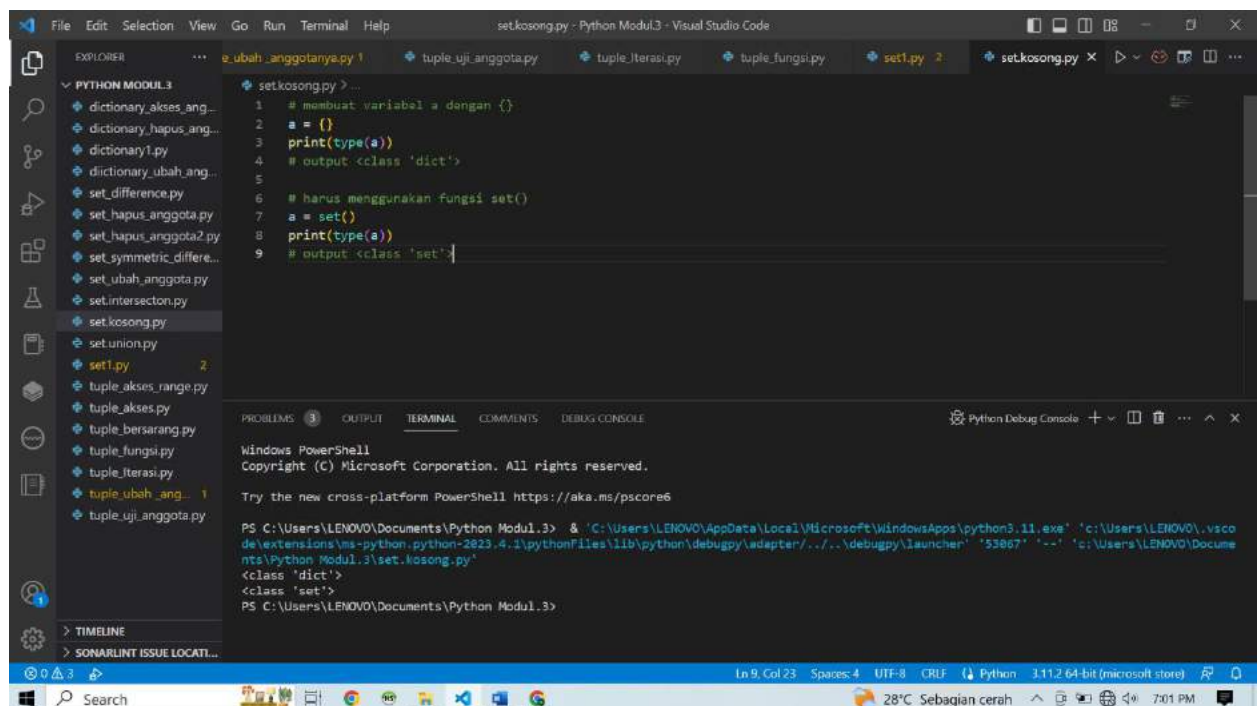
PROBLEMS OUTPUT TERMINAL COMMENTS DEBUG CONSOLE

Python Debug Console

```
PS C:\Users\LENOVO\Documents\Python Modul3> & 'C:\Users\LENOVO\AppData\Local\Microsoft\WindowsApps\python3.11.exe' 'c:\Users\LENOVO\.vscode\extensions\ms-python.python-2023.4.1\pythonFiles\lib\python\debugpy\adapter\..\..\debugpy\launcher' '53861' '--' 'c:\Users\LENOVO\Documents\Python Modul3\set1.py'
{1, 2, 3}
{1, 2, 3}
{1, 2.0, 'Python', (3, 4, 4)}
{1, 2, 3}
Traceback (most recent call last):
  File "c:\Users\LENOVO\Documents\Python Modul3\set1.py", line 20, in <module>
    set_saya = {1,2,[3,4,5]}
                ^^^^^^^^^^^^^
TypeError: unhashable type: 'list'
PS C:\Users\LENOVO\Documents\Python Modul3>
```

Ln 9, Col 20 Spaces: 4 UTF-8 CRLF Python 3.11.2 64-bit (microsoft store)

a. Set Kosong



```
File Edit Selection View Go Run Terminal Help
set.kosong.py - Python Modul3 - Visual Studio Code

EXPLORER
PYTHON MODUL3
  dictionary_akses_ang...
  dictionary_hapus_ang...
  dictionary1.py
  dictionary_ubah_ang...
  set_difference.py
  set_hapus_anggota.py
  set_hapus_anggota2.py
  set_symmetric_differe...
  set_ubah_anggota.py
  set.intersection.py
  set.kosong.py
  set.union.py
  set1.py
  tuple_akses_range.py
  tuple_akses.py
  tuple_bersarang.py
  tuple_fungsi.py
  tuple_iterasi.py
  tuple_ubah_ang...
  tuple_uji_anggota.py

set.kosong.py
1 # membuat variabel a dengan {}
2 a = {}
3 print(type(a))
4 # output <class 'dict'>
5
6 # harus menggunakan fungsi set()
7 a = set()
8 print(type(a))
9 # output <class 'set'>
```

PROBLEMS OUTPUT TERMINAL COMMENTS DEBUG CONSOLE

Python Debug Console

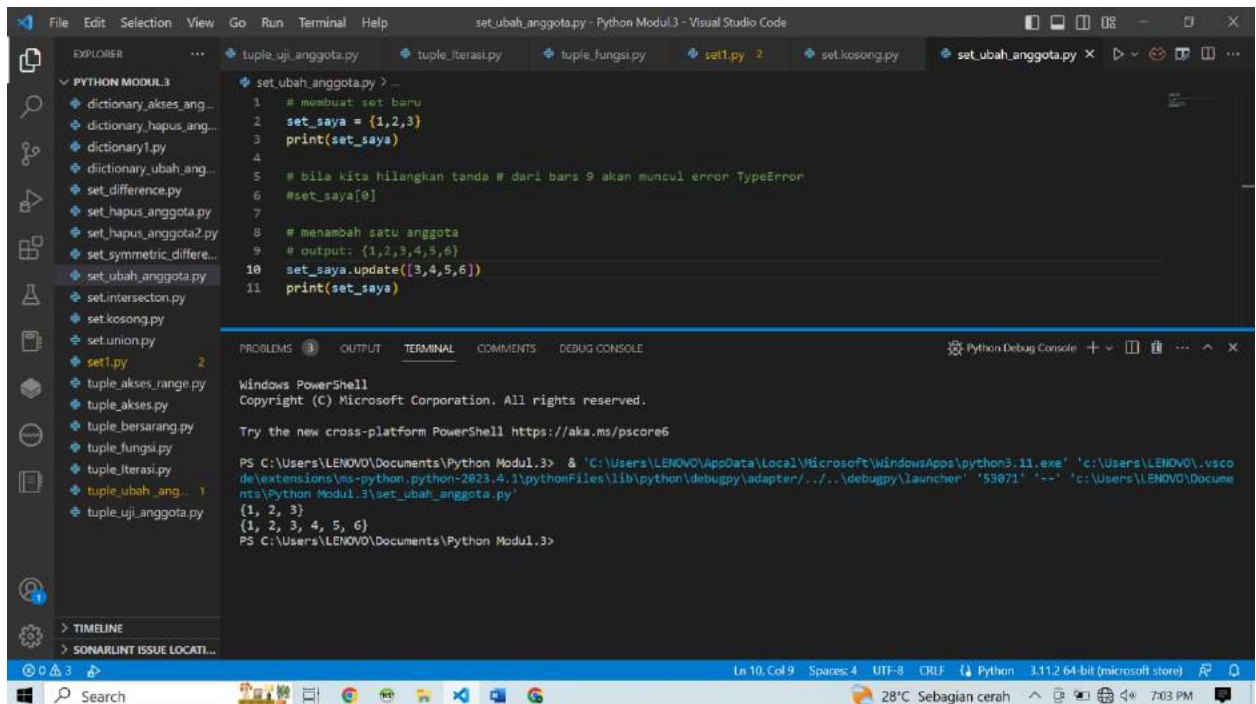
```
Windows PowerShell
Copyright (C) Microsoft Corporation. All rights reserved.

Try the new cross-platform PowerShell https://aka.ms/pscore6

PS C:\Users\LENOVO\Documents\Python Modul3> & 'C:\Users\LENOVO\AppData\Local\Microsoft\WindowsApps\python3.11.exe' 'c:\Users\LENOVO\.vscode\extensions\ms-python.python-2023.4.1\pythonFiles\lib\python\debugpy\adapter\..\..\debugpy\launcher' '53867' '--' 'c:\Users\LENOVO\Documents\Python Modul3\set.kosong.py'
<class 'dict'>
<class 'set'>
PS C:\Users\LENOVO\Documents\Python Modul3>
```

Ln 9, Col 23 Spaces: 4 UTF-8 CRLF Python 3.11.2 64-bit (microsoft store)

8. Mengubah Anggota Set



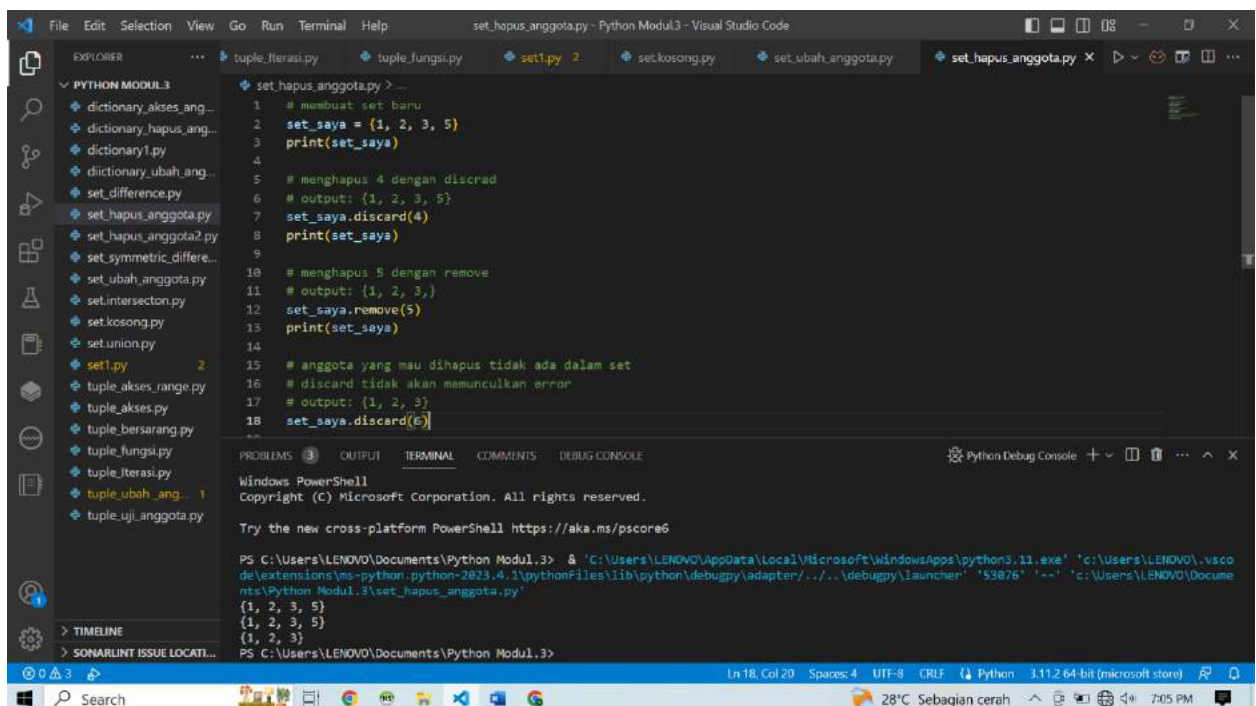
The screenshot shows the Visual Studio Code interface with a Python file named `set_ubah_anggota.py` open. The file contains the following code:

```
1 # membuat set baru
2 set_saya = {1,2,3}
3 print(set_saya)
4
5 # bila kita hilangkan tanda # dari baris 9 akan muncul error TypeError
6 #set_saya[0]
7
8 # menambah satu anggota
9 # output: {1,2,3,4,5,6}
10 set_saya.update([3,4,5,6])
11 print(set_saya)
```

The terminal output shows the execution of the script:

```
PS C:\Users\LENOVO\Documents\Python Modul.3> & 'C:\Users\LENOVO\AppData\Local\Microsoft\WindowsApps\python3.11.exe' 'c:\Users\LENOVO\.vscode\extensions\ms-python.python-2023.4.1\pythonFiles\lib\python\debugpy\adapter\..\..\debugpy\launcher' '53071' '--' 'c:\Users\LENOVO\Documents\Python Modul.3\set_ubah_anggota.py'
{1, 2, 3}
{1, 2, 3, 4, 5, 6}
PS C:\Users\LENOVO\Documents\Python Modul.3>
```

9. Menghapus Anggota Set



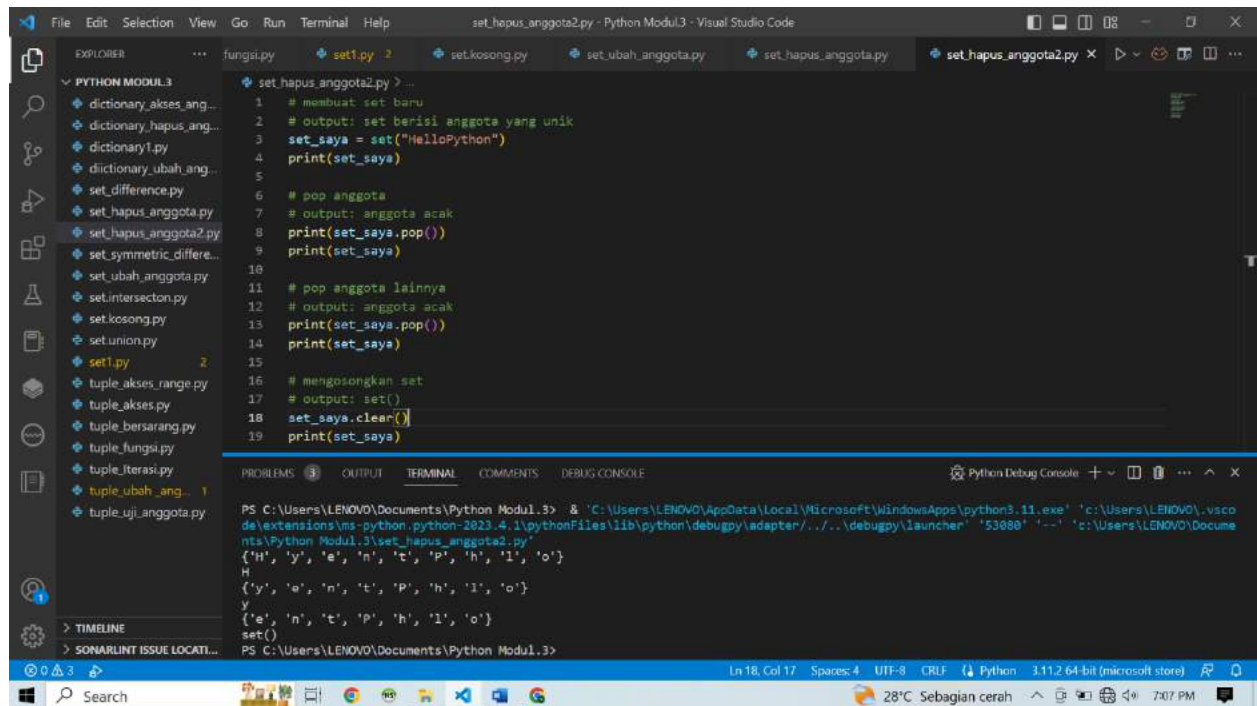
The screenshot shows the Visual Studio Code interface with a Python file named `set_hapus_anggota.py` open. The file contains the following code:

```
1 # membuat set baru
2 set_saya = {1, 2, 3, 5}
3 print(set_saya)
4
5 # menghapus 4 dengan discard
6 # output: {1, 2, 3, 5}
7 set_saya.discard(4)
8 print(set_saya)
9
10 # menghapus 5 dengan remove
11 # output: {1, 2, 3,}
12 set_saya.remove(5)
13 print(set_saya)
14
15 # anggota yang mau dihapus tidak ada dalam set
16 # discard tidak akan memunculkan error
17 # output: {1, 2, 3}
18 set_saya.discard(6)
```

The terminal output shows the execution of the script:

```
PS C:\Users\LENOVO\Documents\Python Modul.3> & 'C:\Users\LENOVO\AppData\Local\Microsoft\WindowsApps\python3.11.exe' 'c:\Users\LENOVO\.vscode\extensions\ms-python.python-2023.4.1\pythonFiles\lib\python\debugpy\adapter\..\..\debugpy\launcher' '53076' '--' 'c:\Users\LENOVO\Documents\Python Modul.3\set_hapus_anggota.py'
{1, 2, 3, 5}
{1, 2, 3, 5}
{1, 2, 3}
PS C:\Users\LENOVO\Documents\Python Modul.3>
```


a. Menghapus Anggota Set Secara Random dengan pop()



```
set_hapus_anggota2.py - Python Modul3 - Visual Studio Code

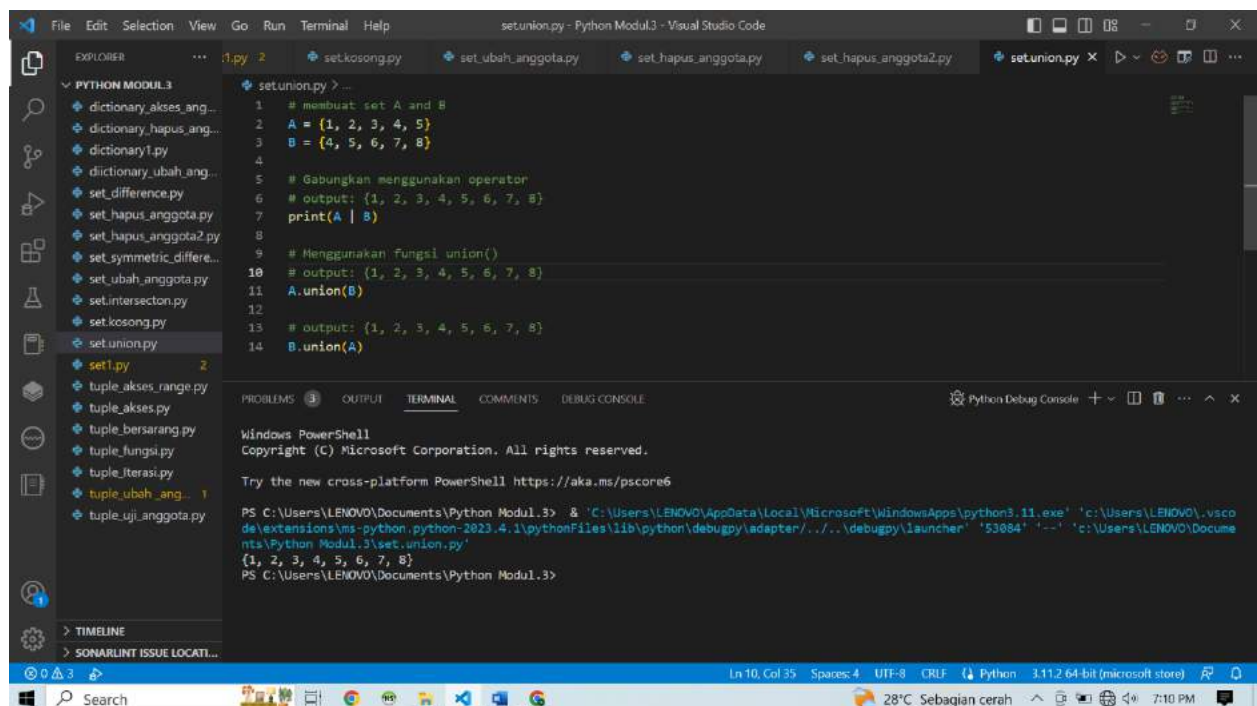
EXPLORER
PYTHON MODUL3
dictionary_akses_ang...
dictionary_hapus_ang...
dictionary1.py
dictionary_ubah_ang...
set_difference.py
set_hapus_anggota.py
set_hapus_anggota2.py
set_symmetric_differe...
set_ubah_anggota.py
set_intersection.py
set_kosong.py
set_union.py
set1.py
tuple_akses_range.py
tuple_akses.py
tuple_bersarang.py
tuple_fungsi.py
tuple_iterasi.py
tuple_ubah_ang...
tuple_uji_anggota.py

set_hapus_anggota2.py > ...
1 # membuat set baru
2 # output: set berisi anggota yang unik
3 set_saya = set("HelloPython")
4 print(set_saya)
5
6 # pop anggota
7 # output: anggota acak
8 print(set_saya.pop())
9 print(set_saya)
10
11 # pop anggota lainnya
12 # output: anggota acak
13 print(set_saya.pop())
14 print(set_saya)
15
16 # mengosongkan set
17 # output: set()
18 set_saya.clear()
19 print(set_saya)

PROBLEMS OUTPUT TERMINAL COMMENTS DEBUG CONSOLE
Python Debug Console
PS C:\Users\LENOVO\Documents\Python Modul3> & 'C:\Users\LENOVO\AppData\Local\Microsoft\WindowsApps\python3.11.exe' 'c:\Users\LENOVO\Documents\Python Modul3\set_hapus_anggota2.py'
{'H', 'y', 'e', 'n', 't', 'P', 'h', 'l', 'o'}
H
{'y', 'e', 'n', 't', 'P', 'h', 'l', 'o'}
y
{'e', 'n', 't', 'P', 'h', 'l', 'o'}
set()
PS C:\Users\LENOVO\Documents\Python Modul3>
```

10. Operasi Set di Python

a. Operasi Gabungan (Union)



```
setunion.py - Python Modul3 - Visual Studio Code

EXPLORER
PYTHON MODUL3
dictionary_akses_ang...
dictionary_hapus_ang...
dictionary1.py
dictionary_ubah_ang...
set_difference.py
set_hapus_anggota.py
set_hapus_anggota2.py
set_symmetric_differe...
set_ubah_anggota.py
set_intersection.py
set_kosong.py
set_union.py
set1.py
tuple_akses_range.py
tuple_akses.py
tuple_bersarang.py
tuple_fungsi.py
tuple_iterasi.py
tuple_ubah_ang...
tuple_uji_anggota.py

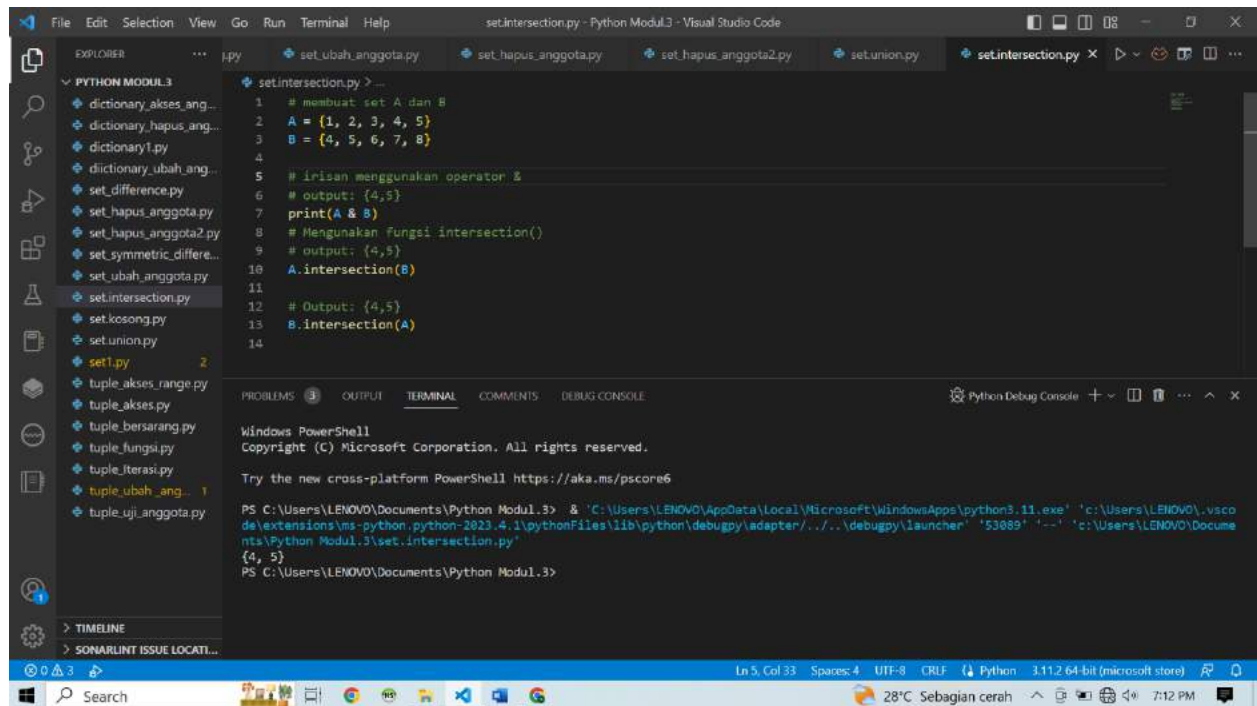
setunion.py > ...
1 # membuat set A and B
2 A = {1, 2, 3, 4, 5}
3 B = {4, 5, 6, 7, 8}
4
5 # Gabungkan menggunakan operator
6 # output: {1, 2, 3, 4, 5, 6, 7, 8}
7 print(A | B)
8
9 # Menggunakan fungsi union()
10 # output: {1, 2, 3, 4, 5, 6, 7, 8}
11 A.union(B)
12
13 # output: {1, 2, 3, 4, 5, 6, 7, 8}
14 B.union(A)

PROBLEMS OUTPUT TERMINAL COMMENTS DEBUG CONSOLE
Python Debug Console
Windows PowerShell
Copyright (C) Microsoft Corporation. All rights reserved.

Try the new cross-platform PowerShell https://aka.ms/powershell

PS C:\Users\LENOVO\Documents\Python Modul3> & 'C:\Users\LENOVO\AppData\Local\Microsoft\WindowsApps\python3.11.exe' 'c:\Users\LENOVO\Documents\Python Modul3\setunion.py'
{1, 2, 3, 4, 5, 6, 7, 8}
PS C:\Users\LENOVO\Documents\Python Modul3>
```

b. Operator Irisan (Intersection)



The screenshot shows the Visual Studio Code editor with the file `setIntersection.py` open. The code defines two sets, A and B, and calculates their intersection using the `&` operator and the `intersection()` method. The terminal output shows the execution of the script, resulting in the intersection of sets A and B, which is `{4, 5}`.

```
1 # membuat set A dan B
2 A = {1, 2, 3, 4, 5}
3 B = {4, 5, 6, 7, 8}
4
5 # irisan menggunakan operator &
6 # output: {4,5}
7 print(A & B)
8 # Menggunakan fungsi intersection()
9 # output: {4,5}
10 A.intersection(B)
11
12 # Output: {4,5}
13 B.intersection(A)
14
```

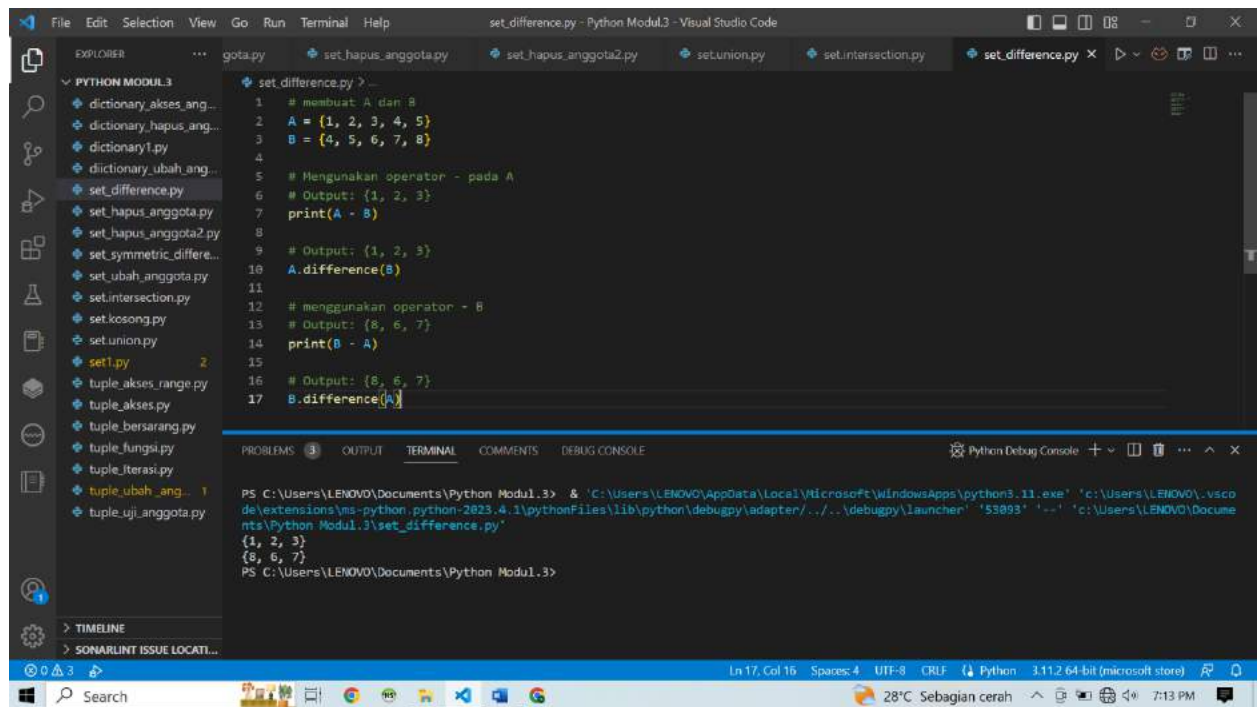
Terminal Output:

```
Windows PowerShell
Copyright (C) Microsoft Corporation. All rights reserved.

Try the new cross-platform PowerShell https://aka.ms/pscore6

PS C:\Users\LENOVO\Documents\Python Modul.3> & 'C:\Users\LENOVO\AppData\Local\Microsoft\WindowsApps\python3.11.exe' 'c:\Users\LENOVO\.vscode\extensions\ms-python.python-2023.4.1\pythonFiles\lib\python\debugpy\adapter\..\..\debugpy\launcher' '53889' '--' 'c:\Users\LENOVO\Documents\Python Modul.3\set.intersection.py'
{4, 5}
PS C:\Users\LENOVO\Documents\Python Modul.3>
```

c. Operasi Selisi (Difference)



The screenshot shows the Visual Studio Code editor with the file `setDifference.py` open. The code defines two sets, A and B, and calculates their difference using the `-` operator and the `difference()` method. The terminal output shows the execution of the script, resulting in the difference of sets A and B, which is `{1, 2, 3}`.

```
1 # membuat A dan B
2 A = {1, 2, 3, 4, 5}
3 B = {4, 5, 6, 7, 8}
4
5 # Menggunakan operator - pada A
6 # Output: {1, 2, 3}
7 print(A - B)
8
9 # Output: {1, 2, 3}
10 A.difference(B)
11
12 # menggunakan operator - B
13 # Output: {8, 6, 7}
14 print(B - A)
15
16 # Output: {8, 6, 7}
17 B.difference(A)
```

Terminal Output:

```
PS C:\Users\LENOVO\Documents\Python Modul.3> & 'C:\Users\LENOVO\AppData\Local\Microsoft\WindowsApps\python3.11.exe' 'c:\Users\LENOVO\.vscode\extensions\ms-python.python-2023.4.1\pythonFiles\lib\python\debugpy\adapter\..\..\debugpy\launcher' '53889' '--' 'c:\Users\LENOVO\Documents\Python Modul.3\set.difference.py'
{1, 2, 3}
{8, 6, 7}
PS C:\Users\LENOVO\Documents\Python Modul.3>
```

d. Operasi Komplemen (Symmetric Difference)

The screenshot shows a Visual Studio Code editor with a Python file named `set_symmetric_difference.py`. The code defines two sets, A and B, and calculates their symmetric difference using the `^` operator and the `symmetric_difference()` method. The terminal output shows the result of the symmetric difference operation.

```
1 # membuat A and B
2 A = {1, 2, 3, 4, 5}
3 B = {4, 5, 6, 7, 8}
4
5 # menggunakan operator ^ pada B
6 # Output: {1, 2, 3, 6, 7, 8}
7 print(A ^ B)
8
9 # Output: {1, 2, 3, 6, 7, 8}
10 A.symmetric_difference(B)
11
12 # menggunakan operator ^ pada B
13 # Output: {1, 2, 3, 6, 7, 8}
14 print(B ^ A)
15
16 # Output: {1, 2, 3, 6, 7, 8}
17 B.symmetric_difference(A)
```

The terminal output shows the result of the symmetric difference operation:

```
PS C:\Users\LENOVO\Documents\Python Modul.3> & 'C:\Users\LENOVO\AppData\Local\Microsoft\WindowsApps\python3.11.exe' 'c:\Users\LENOVO\Documents\Python Modul.3\set_symmetric_difference.py'
{1, 2, 3, 6, 7, 8}
{1, 2, 3, 6, 7, 8}
PS C:\Users\LENOVO\Documents\Python Modul.3>
```

11. Dictionary

a. Membuat Dictionary

The screenshot shows a Visual Studio Code editor with a Python file named `dictionary1.py`. The code creates a dictionary with a mix of string keys and list values, and another dictionary using the `dict()` function. The terminal output shows the result of the dictionary creation.

```
7 print(dict1)
8
9 # dictionary dengan kunci campuran
10 dict1 = {'warna': 'merah', 1: [2, 3, 4]}
11 print(dict1)
12
13 # membuat dictionary menggunakan fungsi dict()
14 dict1 = dict([('1', 'sepatu'), ('2', 'bola')])
15 print(dict1)
16
17 dict1 = dict(m=8, n=9, o=10)
18 print(dict1)
```

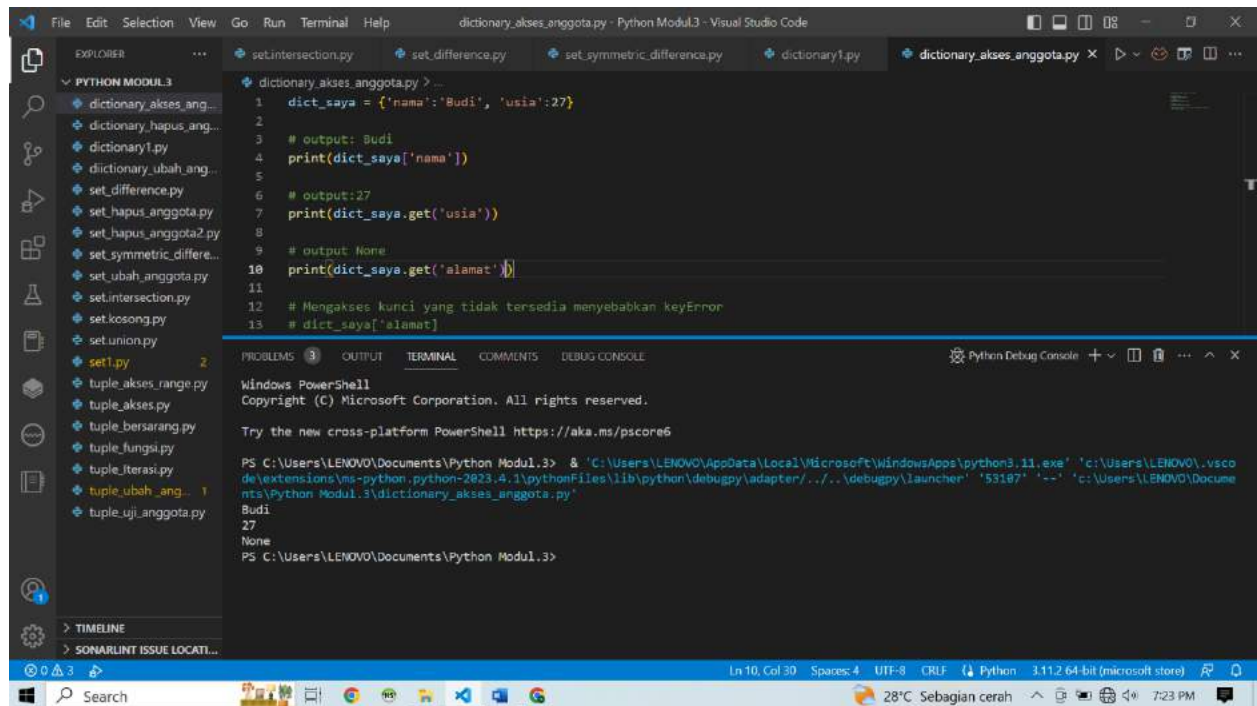
The terminal output shows the result of the dictionary creation:

```
Windows PowerShell
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Try the new cross-platform PowerShell https://aka.ms/powershell

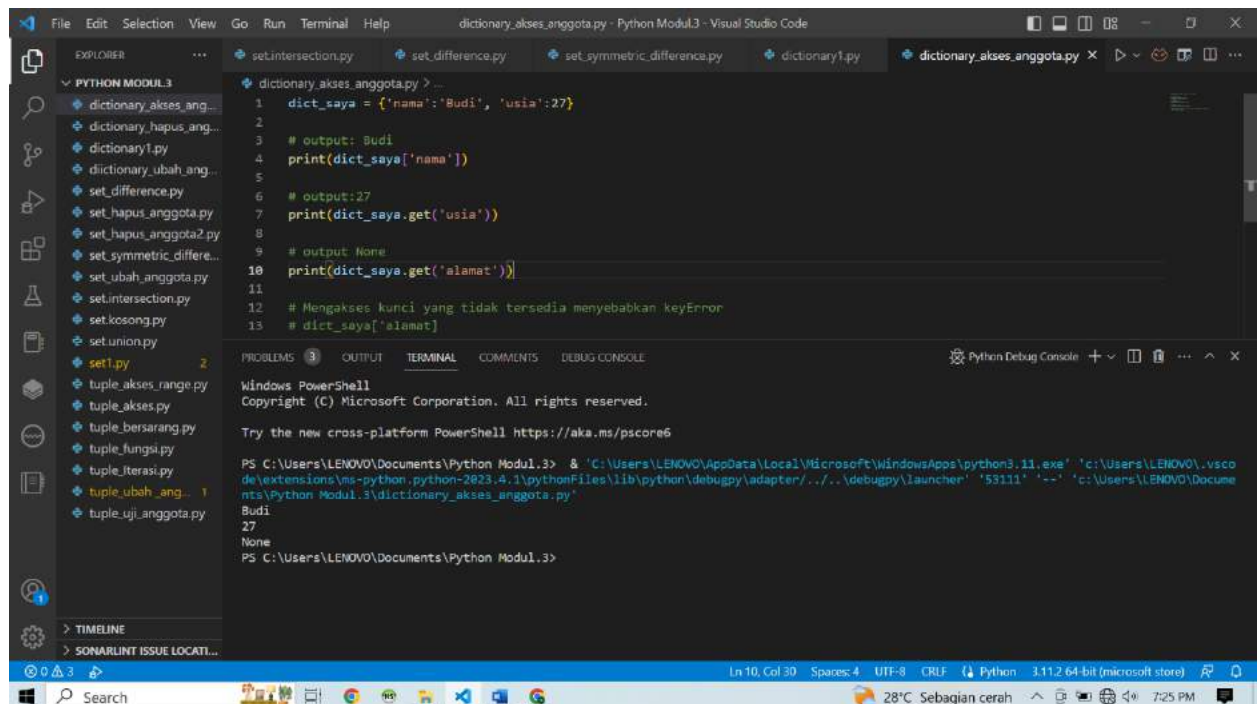
PS C:\Users\LENOVO\Documents\Python Modul.3> & 'C:\Users\LENOVO\AppData\Local\Microsoft\WindowsApps\python3.11.exe' 'c:\Users\LENOVO\Documents\Python Modul.3\dictionary1.py'
{'warna': 'merah', 1: [2, 3, 4]}
{'1': 'sepatu', '2': 'bola'}
{'m': 8, 'n': 9, 'o': 10}
PS C:\Users\LENOVO\Documents\Python Modul.3>
```


b. Mengakses Anggota Dictionary



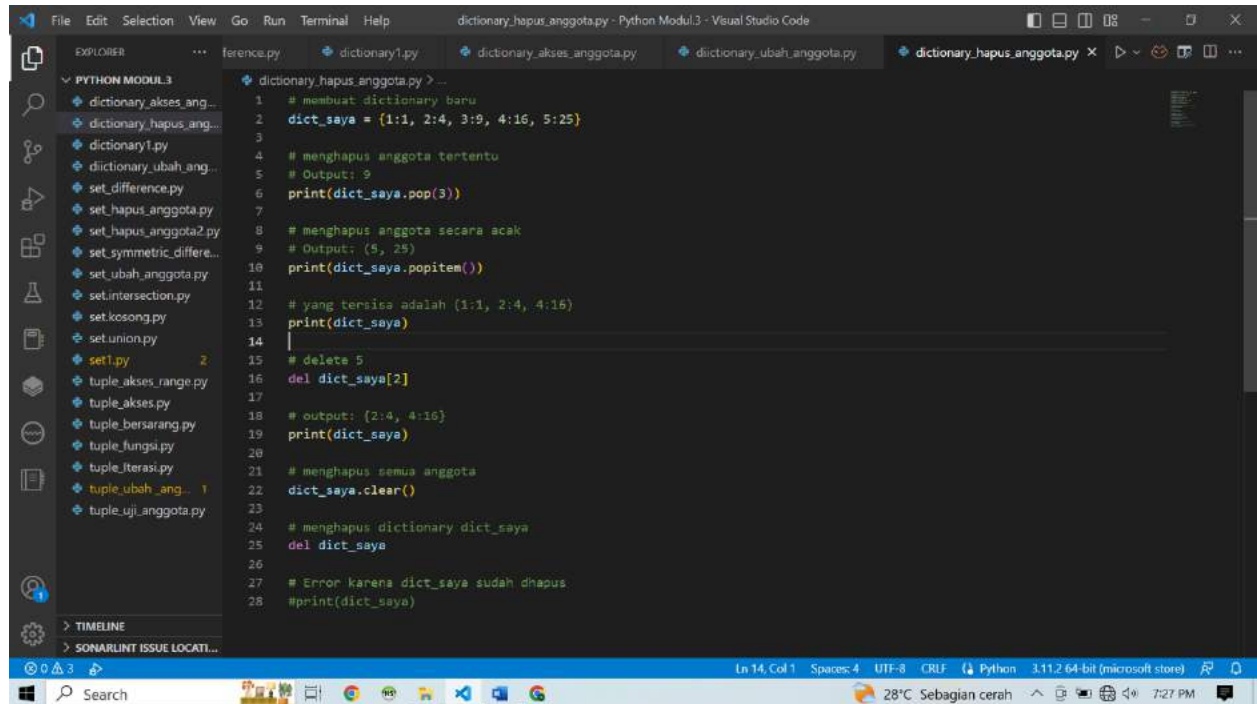
```
File Edit Selection View Go Run Terminal Help dictionary_akses_anggota.py - Python Modul3 - Visual Studio Code
EXPLORER PYTHON MODUL3
dictionary_akses_ang...
dictionary_hapus_ang...
dictionary1.py
dictionary_ubah_ang...
set_difference.py
set_hapus_anggota.py
set_hapus_anggota2.py
set_symmetric_differ...
set_ubah_anggota.py
setIntersection.py
set_kosong.py
setUnion.py
set1.py
tuple_akses_range.py
tuple_akses.py
tuple_bersarang.py
tuple_fungsi.py
tuple_iterasi.py
tuple_ubah_ang...
tuple_uji_anggota.py
dictionary_akses_anggota.py
1 dict_saya = {'nama': 'Budi', 'usia': 27}
2
3 # output: Budi
4 print(dict_saya['nama'])
5
6 # output: 27
7 print(dict_saya.get('usia'))
8
9 # output: None
10 print(dict_saya.get('alamat'))
11
12 # Mengakses kunci yang tidak tersedia menyebabkan KeyError
13 # dict_saya['alamat']
PROBLEMS OUTPUT TERMINAL COMMENTS DEBUG CONSOLE
Python Debug Console
Windows PowerShell
Copyright (C) Microsoft Corporation. All rights reserved.
Try the new cross-platform PowerShell https://aka.ms/pscore6
PS C:\Users\LENOVO\Documents\Python Modul3> & "C:\Users\LENOVO\AppData\Local\Microsoft\WindowsApps\python3.11.exe" "c:\Users\LENOVO\.vscode\extensions\ms-python.python-2023.4.1\pythonFiles\lib\python\debugpy\adapter\..\..\debugpy\launcher" "53107" "--" "c:\Users\LENOVO\Documents\Python Modul3\dictionary_akses_anggota.py"
Budi
27
None
PS C:\Users\LENOVO\Documents\Python Modul3>
```

c. Mengubah Anggota Dictionary



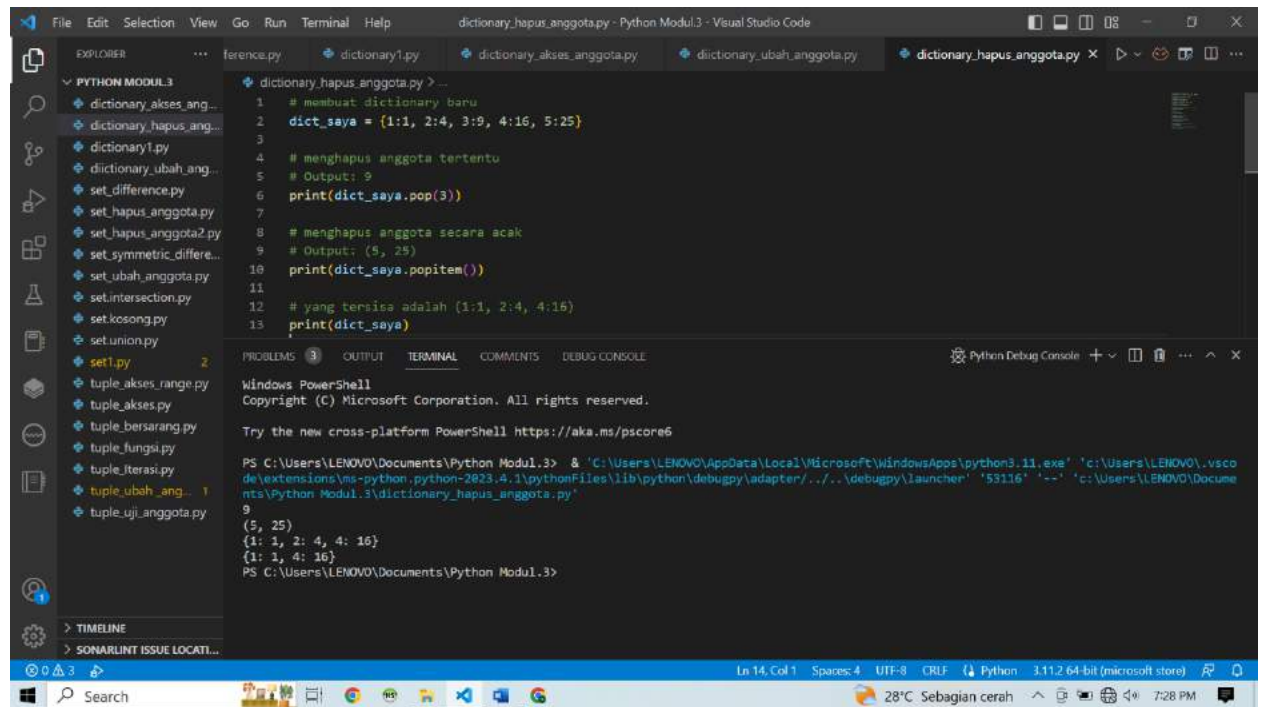
```
File Edit Selection View Go Run Terminal Help dictionary_akses_anggota.py - Python Modul3 - Visual Studio Code
EXPLORER PYTHON MODUL3
dictionary_akses_ang...
dictionary_hapus_ang...
dictionary1.py
dictionary_ubah_ang...
set_difference.py
set_hapus_anggota.py
set_hapus_anggota2.py
set_symmetric_differ...
set_ubah_anggota.py
setIntersection.py
set_kosong.py
setUnion.py
set1.py
tuple_akses_range.py
tuple_akses.py
tuple_bersarang.py
tuple_fungsi.py
tuple_iterasi.py
tuple_ubah_ang...
tuple_uji_anggota.py
dictionary_akses_anggota.py
1 dict_saya = {'nama': 'Budi', 'usia': 27}
2
3 # output: Budi
4 print(dict_saya['nama'])
5
6 # output: 27
7 print(dict_saya.get('usia'))
8
9 # output: None
10 print(dict_saya.get('alamat'))
11
12 # Mengakses kunci yang tidak tersedia menyebabkan KeyError
13 # dict_saya['alamat']
PROBLEMS OUTPUT TERMINAL COMMENTS DEBUG CONSOLE
Python Debug Console
Windows PowerShell
Copyright (C) Microsoft Corporation. All rights reserved.
Try the new cross-platform PowerShell https://aka.ms/pscore6
PS C:\Users\LENOVO\Documents\Python Modul3> & "C:\Users\LENOVO\AppData\Local\Microsoft\WindowsApps\python3.11.exe" "c:\Users\LENOVO\.vscode\extensions\ms-python.python-2023.4.1\pythonFiles\lib\python\debugpy\adapter\..\..\debugpy\launcher" "53111" "--" "c:\Users\LENOVO\Documents\Python Modul3\dictionary_akses_anggota.py"
Budi
27
None
Jember
PS C:\Users\LENOVO\Documents\Python Modul3>
```


d. Menghapus Anggota Dictionary



The screenshot shows the Visual Studio Code editor with a Python file named `dictionary_hapus_anggota.py`. The code defines a dictionary `dict_saya` and demonstrates three methods to remove its members: `pop()`, `popitem()`, and `del`. Comments in Indonesian explain each step.

```
1 # membuat dictionary baru
2 dict_saya = {'1':1, '2':4, '3':9, '4':16, '5':25}
3
4 # menghapus anggota tertentu
5 # Output: 9
6 print(dict_saya.pop('3'))
7
8 # menghapus anggota secara acak
9 # Output: ('5', 25)
10 print(dict_saya.popitem())
11
12 # yang tersisa adalah {'1':1, '2':4, '4':16}
13 print(dict_saya)
14
15 # delete 5
16 del dict_saya['2']
17
18 # output: {'1':1, '4':16}
19 print(dict_saya)
20
21 # menghapus semua anggota
22 dict_saya.clear()
23
24 # menghapus dictionary dict_saya
25 del dict_saya
26
27 # Error karena dict_saya sudah dihapus
28 #print(dict_saya)
```



This screenshot shows the same Python script being executed. The terminal window at the bottom displays the output of the program, which matches the comments in the code. The PowerShell prompt shows the command used to run the script.

```
PS C:\Users\LENOVO\Documents\Python Modul 3> & 'C:\Users\LENOVO\AppData\Local\Microsoft\WindowsApps\python3.11.exe' 'c:\Users\LENOVO\Documents\Python Modul 3\dictionary_hapus_anggota.py'
```

The output in the terminal is:

```
9
('5', 25)
{'1': 1, '2': 4, '4': 16}
{'1': 1, '4': 16}
```