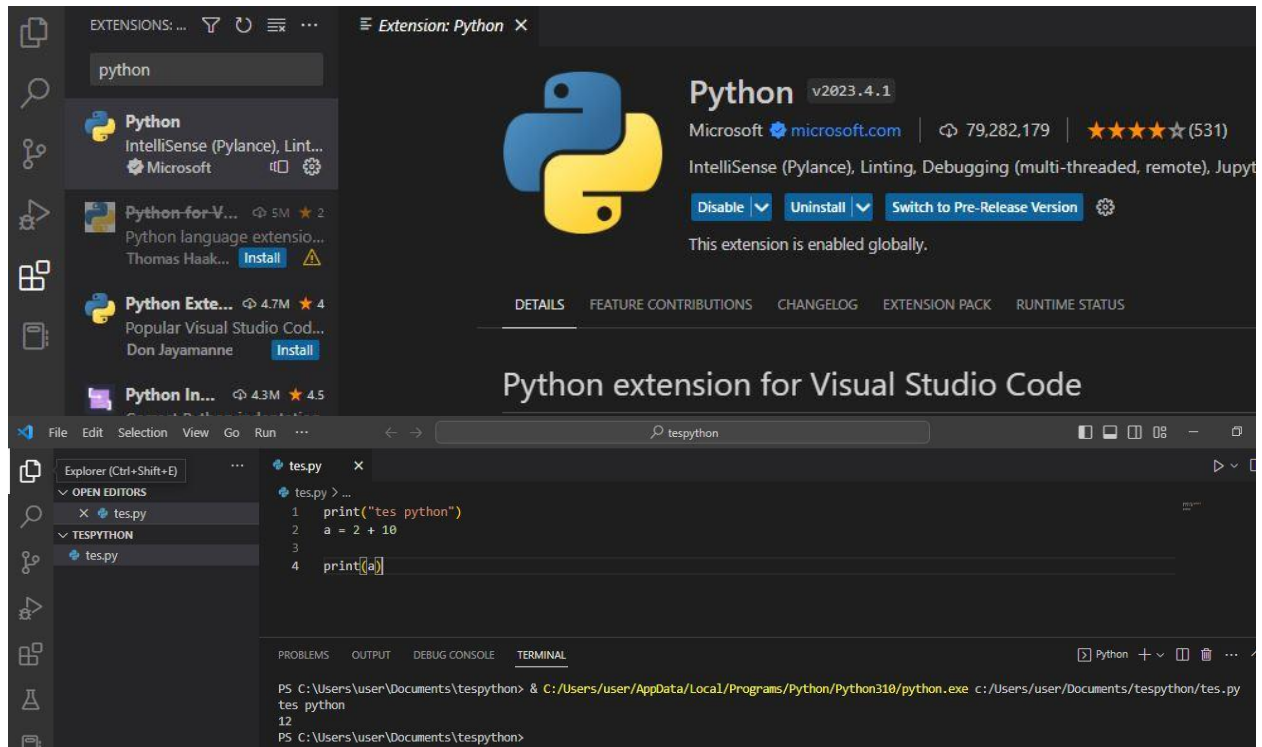


NAMA : HADIJATOL KADRI

NIM : 20.01.013.006

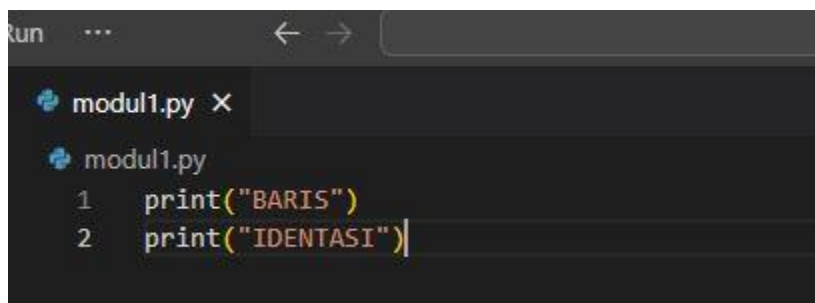
MK : PEMROGRAMAN PYTHON-A

1.python-Instalasi



2.python-Modul 1

Baris dan identasi



Pernyataan Multibaris

```
modul1.py tes.py X
tes.py > ...
1 angka1 = 2
2 a = angka1 + 4 + \
3   7 + \
4   5
5

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL
PS C:\Users\user\Documents\tespython> & C:/Users/user/AppData/Local/Programs/Python/Python311/python.exe C:\Users\user\Documents\tespython\tes.py
18
```

```
namahari.py > ...
1 namaHari = ['Senin', 'Selasa', 'Rabu', 'Kamis']
2 print(namaHari)

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL
PS C:\Users\user\Documents\tespython> & C:/Users/user/AppData/Local/Programs/Python/Python311/python.exe C:\Users\user\Documents\tespython\namahari.py
['Senin', 'Selasa', 'Rabu', 'Kamis']
```

#Tanda Kutip

```
modul1.py X tes.py namahari.py kutip.py X
kutip.py > ...
1 kutip1 = 'BELAJAR PYTHON'
2 kutip2 = "BELAJAR PYTHONDASAR"
3 kutip3 = """BELAJAR PYTHON SIANG MALAM"""
4
5 print(kutip1)
6 print(kutip2)
7 print(kutip3)

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL
PS C:\Users\user\Documents\tespython> & C:/Users/user/AppData/Local/Programs/Python/Python311/python.exe C:\Users\user\Documents\tespython\kutip.py
BELAJAR PYTHON
BELAJAR PYTHONDASAR
BELAJAR PYTHON SIANG MALAM
```

#Komentar

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

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL

PS C:\Users\user\Documents\tespython> & C:/Users/user/AppData
INI ADALAH KOMENTAR
```

#Dua pernyataan Dalam Satu Baris

```
titikkoma.py X
titikkoma.py
1 print("TITIK KOMA"); print("TITIK KOMA KEDUA")

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL

PS C:\Users\user\Documents\tespython> & C:/Users/user/AppData

TITIK KOMA
TITIK KOMA KEDUA
```

#Operator Aritmatika

```
aritmatika.py X
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("pangkat : ", d)
9 print("Hasil : ", e)

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL

PS C:\Users\user\Documents\tespython> & C:/Users/us
y
Hasil : 3.3333333333333335
pangkat : 1000
Hasil : 3
```

#OperatorPerbandingan

```
perbandingan.py X
perbandingan.py > ...
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)
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL

```
PS C:\Users\user\Documents\tespython> & C:/Users/user/tespython.py
False
True
False
True
```

#Operator Penugasan

```
penugasan.py X
penugasan.py > ...
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)
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL

```
PS C:\Users\user\Documents\tespython> & C:/Users/user/tespython.py
13
7
```

#Operator Logika

```
logika.py X
logika.py > ...
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)
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL

```
PS C:\Users\user\Documents\tespython> & C:/Users/...
True
False
True
True
```

#Operator Bitwise

```
bitwise.py X
bitwise.py > ...
1  a = 1
2  b = 2
3
4  c = a | b
5  print(c)
6  |
7  c = a & b
8  print(c)
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL

```
PS C:\Users\user\Documents\tespython> & C:/Users/...
3
0
```

#Operator Identitas

```
identitas.py X
identitas.py > ...
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)
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL

```
print(2 is b)
c:\Users\user\Documents\tespython\identitas.py:6: SyntaxWarning: "is" with a literal. Did you mean "=="?
print(3 is a)
c:\Users\user\Documents\tespython\identitas.py:7: SyntaxWarning: "is not" with a literal. Did you mean "!="?
print(1 is not a)
c:\Users\user\Documents\tespython\identitas.py:8: SyntaxWarning: "is not" with a literal. Did you mean "!="?
print(2 is not b)
True
True
False
False
False

True
False
```

#Operator Keanggotaan

```
keanggotaan.py X
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" not in 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)
```

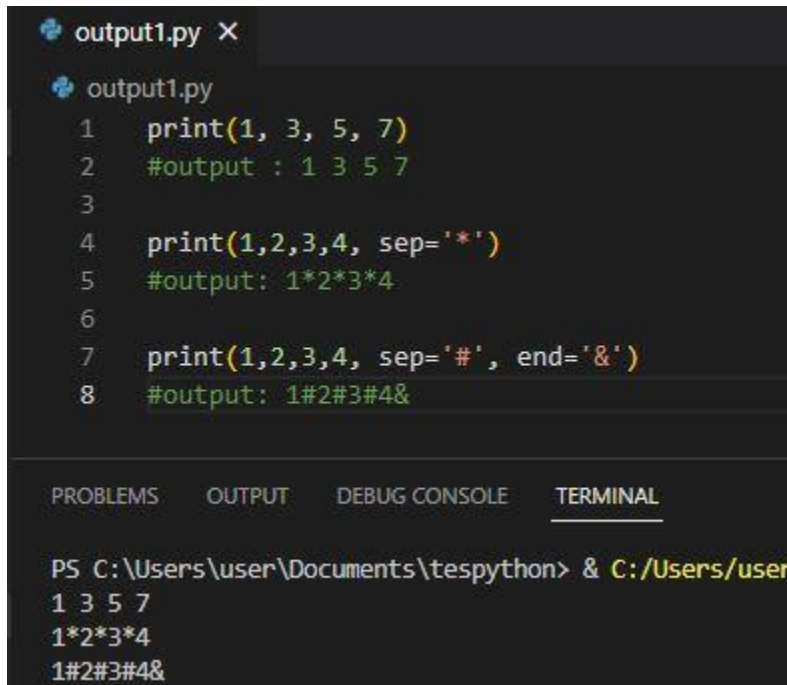
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL

```
PS C:\Users\user\Documents\tespython> & C:/Users/user/AppData/Local/Programs/Python/Python39-64/python.exe keanggotaan.py
True
False
False
False

True
True
False
False
```


3.Python-Modul 2

#Output

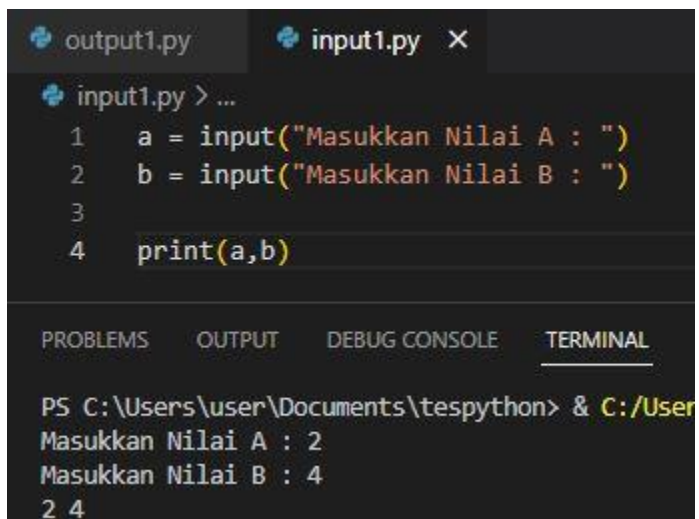


```
output1.py X
output1.py
1  print(1, 3, 5, 7)
2  #output : 1 3 5 7
3
4  print(1,2,3,4, sep='*')
5  #output: 1*2*3*4
6
7  print(1,2,3,4, sep='#', end='&')
8  #output: 1#2#3#4&

PROBLEMS  OUTPUT  DEBUG CONSOLE  TERMINAL

PS C:\Users\user\Documents\tespython> & C:/Users/user
1 3 5 7
1*2*3*4
1#2#3#4&
```

#Input

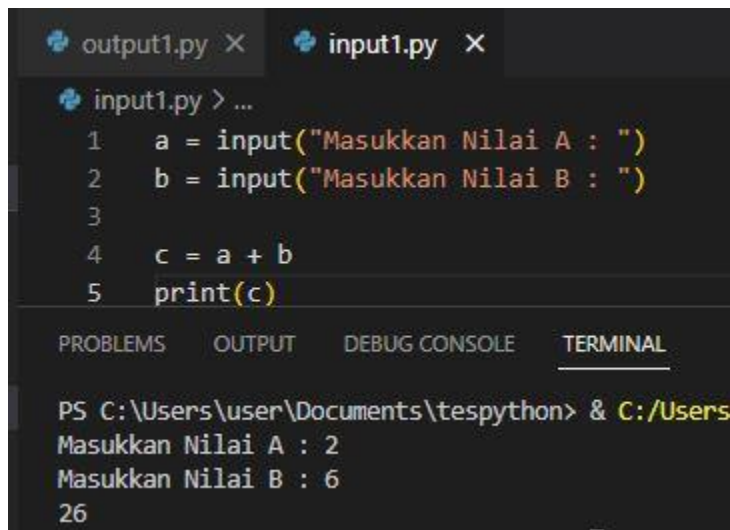


```
output1.py  input1.py X
input1.py > ...
1  a = input("Masukkan Nilai A : ")
2  b = input("Masukkan Nilai B : ")
3
4  print(a,b)

PROBLEMS  OUTPUT  DEBUG CONSOLE  TERMINAL

PS C:\Users\user\Documents\tespython> & C:/User
Masukkan Nilai A : 2
Masukkan Nilai B : 4
2 4
```


-Input Integer tanpa fungsi int()

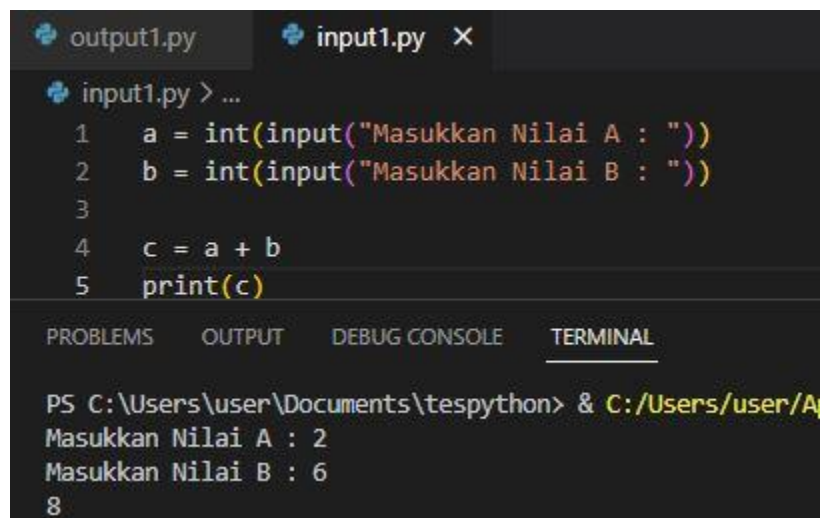


```
output1.py X input1.py X
input1.py > ...
1 a = input("Masukkan Nilai A : ")
2 b = input("Masukkan Nilai B : ")
3
4 c = a + b
5 print(c)

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL

PS C:\Users\user\Documents\tespython> & C:/Users/user/A
Masukkan Nilai A : 2
Masukkan Nilai B : 6
26
```

-Fungsi int() cara pertama

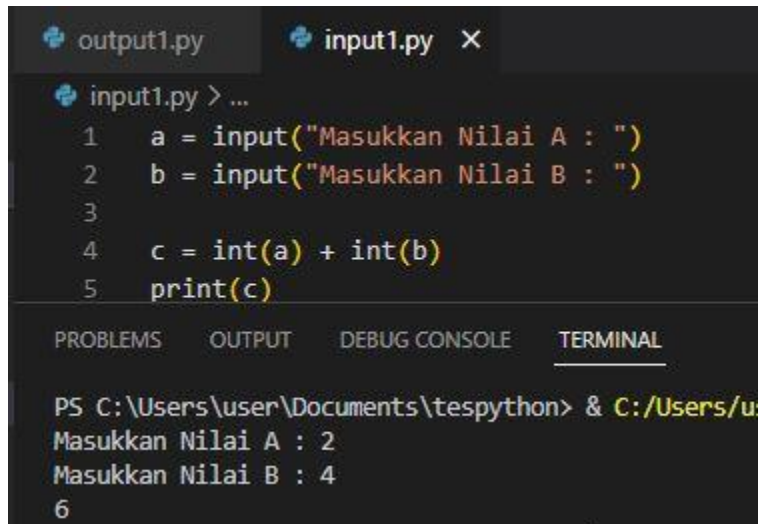


```
output1.py input1.py X
input1.py > ...
1 a = int(input("Masukkan Nilai A : "))
2 b = int(input("Masukkan Nilai B : "))
3
4 c = a + b
5 print(c)

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL

PS C:\Users\user\Documents\tespython> & C:/Users/user/A
Masukkan Nilai A : 2
Masukkan Nilai B : 6
8
```

-fungsi int() cara kedua



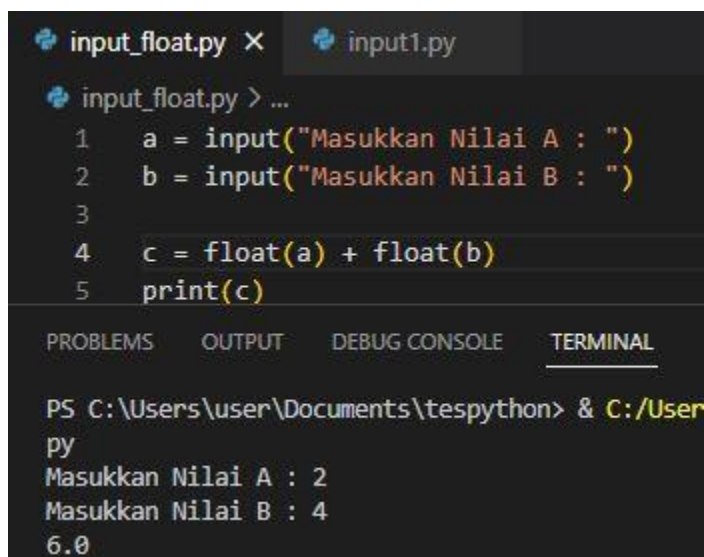
The screenshot shows a Python IDE with two tabs: 'output1.py' and 'input1.py'. The 'input1.py' tab is active, displaying a script with five lines of code. The code prompts the user to enter two numbers, A and B, and then calculates their sum using the `int()` function. The terminal window at the bottom shows the execution of the script, with the user entering '2' for A and '4' for B, resulting in the output '6'.

```
input1.py > ...
1 a = input("Masukkan Nilai A : ")
2 b = input("Masukkan Nilai B : ")
3
4 c = int(a) + int(b)
5 print(c)

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL

PS C:\Users\user\Documents\tespython> & C:/Users/u
Masukkan Nilai A : 2
Masukkan Nilai B : 4
6
```

-fungsi float



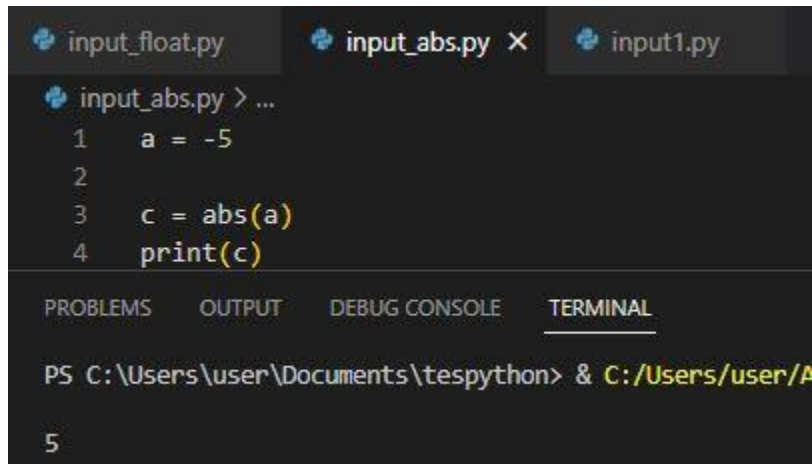
The screenshot shows a Python IDE with two tabs: 'input_float.py' and 'input1.py'. The 'input_float.py' tab is active, displaying a script with five lines of code. The code prompts the user to enter two numbers, A and B, and then calculates their sum using the `float()` function. The terminal window at the bottom shows the execution of the script, with the user entering '2' for A and '4' for B, resulting in the output '6.0'.

```
input_float.py > ...
1 a = input("Masukkan Nilai A : ")
2 b = input("Masukkan Nilai B : ")
3
4 c = float(a) + float(b)
5 print(c)

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL

PS C:\Users\user\Documents\tespython> & C:/User
py
Masukkan Nilai A : 2
Masukkan Nilai B : 4
6.0
```

-fungsi abs() statis



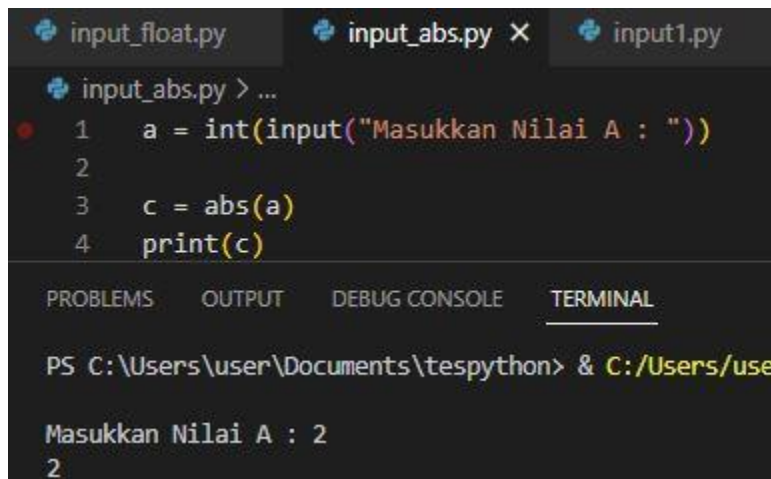
The screenshot shows a Python IDE with three tabs: input_float.py, input_abs.py (active), and input1.py. The code in input_abs.py is as follows:

```
1 a = -5
2
3 c = abs(a)
4 print(c)
```

The terminal output shows the command prompt path and the result of the program:

```
PS C:\Users\user\Documents\tespython> & C:/Users/user/A
5
```

-fungsi abs() dinamis



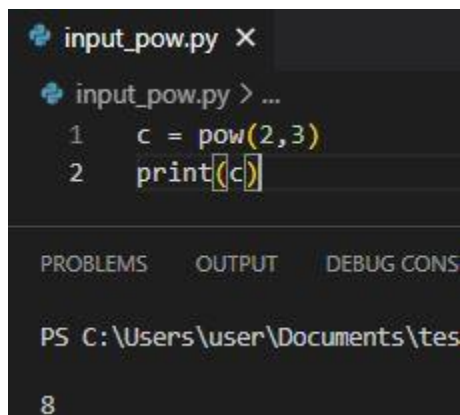
The screenshot shows a Python IDE with three tabs: input_float.py, input_abs.py (active), and input1.py. The code in input_abs.py is as follows:

```
1 a = int(input("Masukkan Nilai A : "))
2
3 c = abs(a)
4 print(c)
```

The terminal output shows the command prompt path, the input prompt, the user input, and the result of the program:

```
PS C:\Users\user\Documents\tespython> & C:/Users/use
Masukkan Nilai A : 2
2
```

-fungsi pow() statis



The screenshot shows a Python IDE with one tab: input_pow.py (active). The code in input_pow.py is as follows:

```
1 c = pow(2,3)
2 print(c)
```

The terminal output shows the command prompt path and the result of the program:

```
PS C:\Users\user\Documents\tes
8
```

-fungsi pow() dinamis

```
input_pow.py X
input_pow.py > ...
1 a = int(input("Masukkan Nilai A : "))
2 b = int(input("Masukkan Nilai Pangkat : "))
3
4 c = pow(a,b)
5 print(c)

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL

PS C:\Users\user\Documents\tespython> & C:/Users/user/App

Masukkan Nilai A : 2
Masukkan Nilai Pangkat : 2
4
```

-fungsi sqrt() statis

```
input_sqrt.py X
input_sqrt.py > ...
1 import math
2
3 c = math.sqrt(36)
4 print(c)

PROBLEMS OUTPUT DEBUG CONSOLE

PS C:\Users\user\Documents\tespython>
y
6.0
```

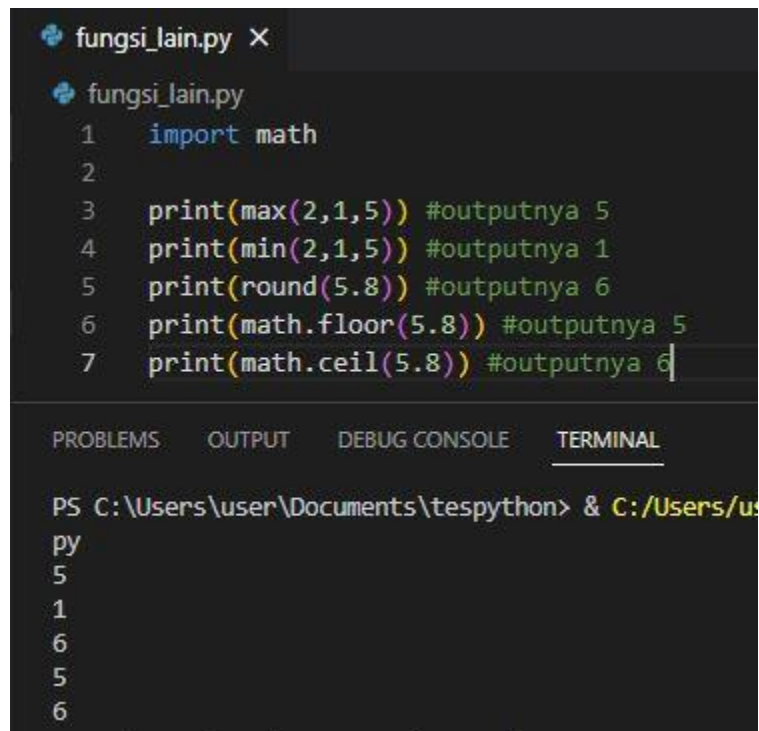
-fungsi sqrt() dinamis

```
input_sqrt.py X
input_sqrt.py > ...
1 import math
2
3 a = input("Masukkan Nilai : ")
4
5 c = math.sqrt(int(a))
6 print(c)

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL

PS C:\Users\user\Documents\tespython> & C:/Users/user/App
y
Masukkan Nilai : 36
6.0
```

-fungsi lain

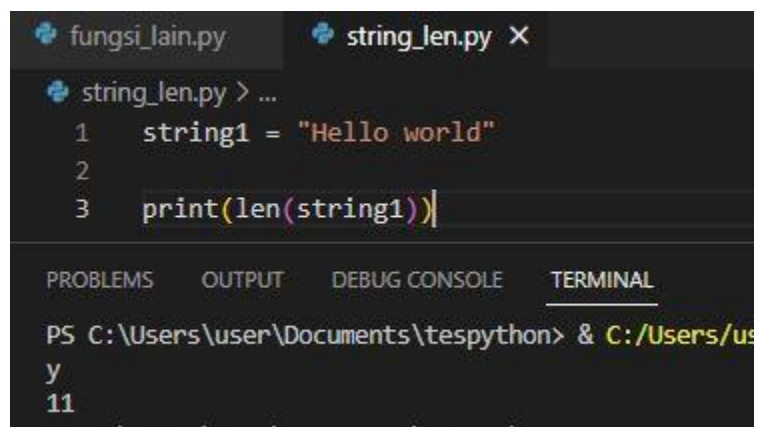


```
fungsi_lain.py X
fungsi_lain.py
1 import math
2
3 print(max(2,1,5)) #outputnya 5
4 print(min(2,1,5)) #outputnya 1
5 print(round(5.8)) #outputnya 6
6 print(math.floor(5.8)) #outputnya 5
7 print(math.ceil(5.8)) #outputnya 6

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL
PS C:\Users\user\Documents\tespython> & C:/Users/user/Python/Python38-64/python.exe C:/Users/user/Python/Python38-64/python.exe C:\Users\user\Documents\tespython\fungsi_lain.py
5
1
6
5
6
```

Operasi String

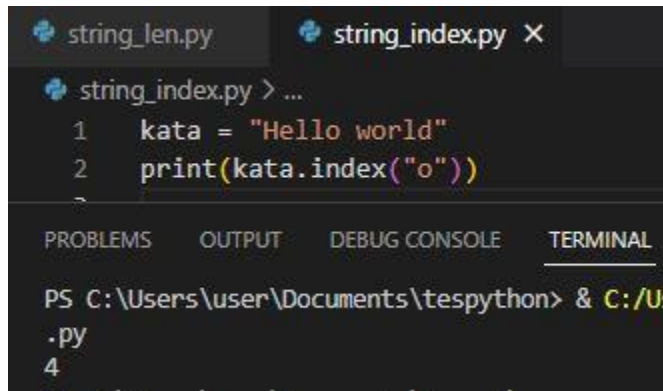
#fungsi len()



```
fungsi_lain.py string_len.py X
string_len.py > ...
1 string1 = "Hello world"
2
3 print(len(string1))

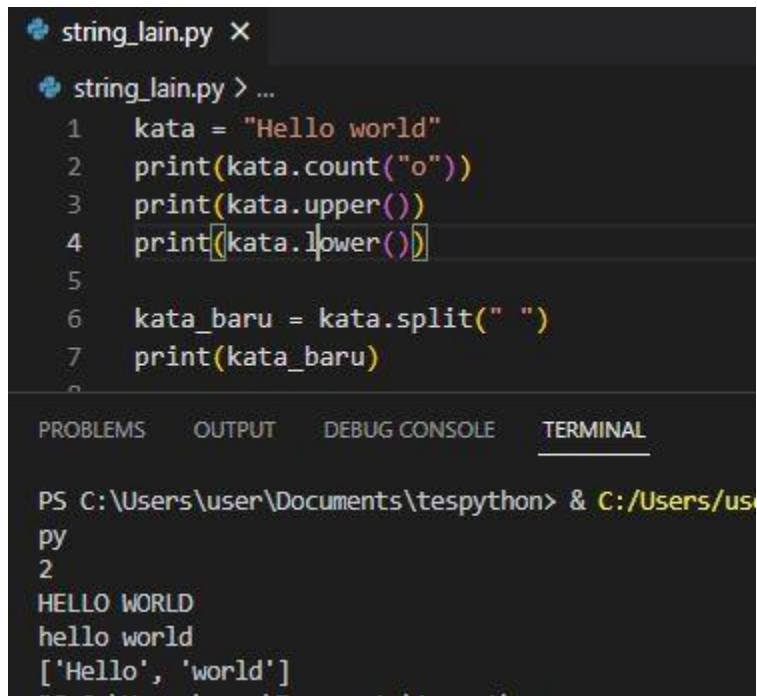
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL
PS C:\Users\user\Documents\tespython> & C:/Users/user/Python/Python38-64/python.exe C:/Users/user/Python/Python38-64/python.exe C:\Users\user\Documents\tespython\string_len.py
y
11
PS C:\Users\user\Documents\tespython>
```

#fungsi index()



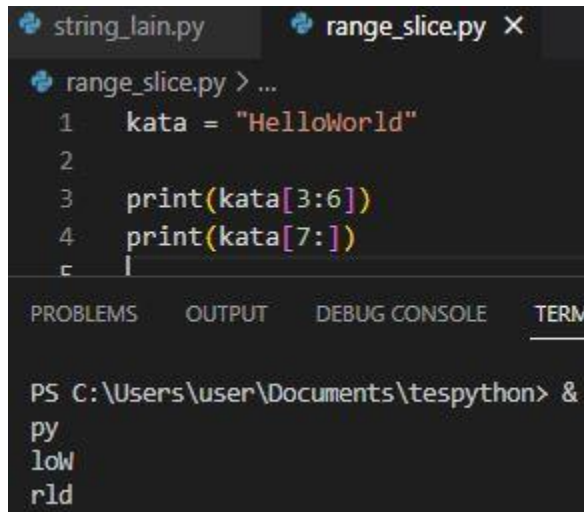
```
string_index.py > ...
1 kata = "Hello world"
2 print(kata.index("o"))
3
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL
PS C:\Users\user\Documents\tespython> & C:/U
.py
4
```

#fungsi string lain



```
string_lain.py > ...
1 kata = "Hello world"
2 print(kata.count("o"))
3 print(kata.upper())
4 print(kata.lower())
5
6 kata_baru = kata.split(" ")
7 print(kata_baru)
8
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL
PS C:\Users\user\Documents\tespython> & C:/Users/us
py
2
HELLO WORLD
hello world
['Hello', 'world']
PS C:\Users\user\Documents\tespython>
```

#range slice



The screenshot shows a Python IDE with two tabs: 'string_lain.py' and 'range_slice.py'. The 'range_slice.py' tab is active, displaying the following code:

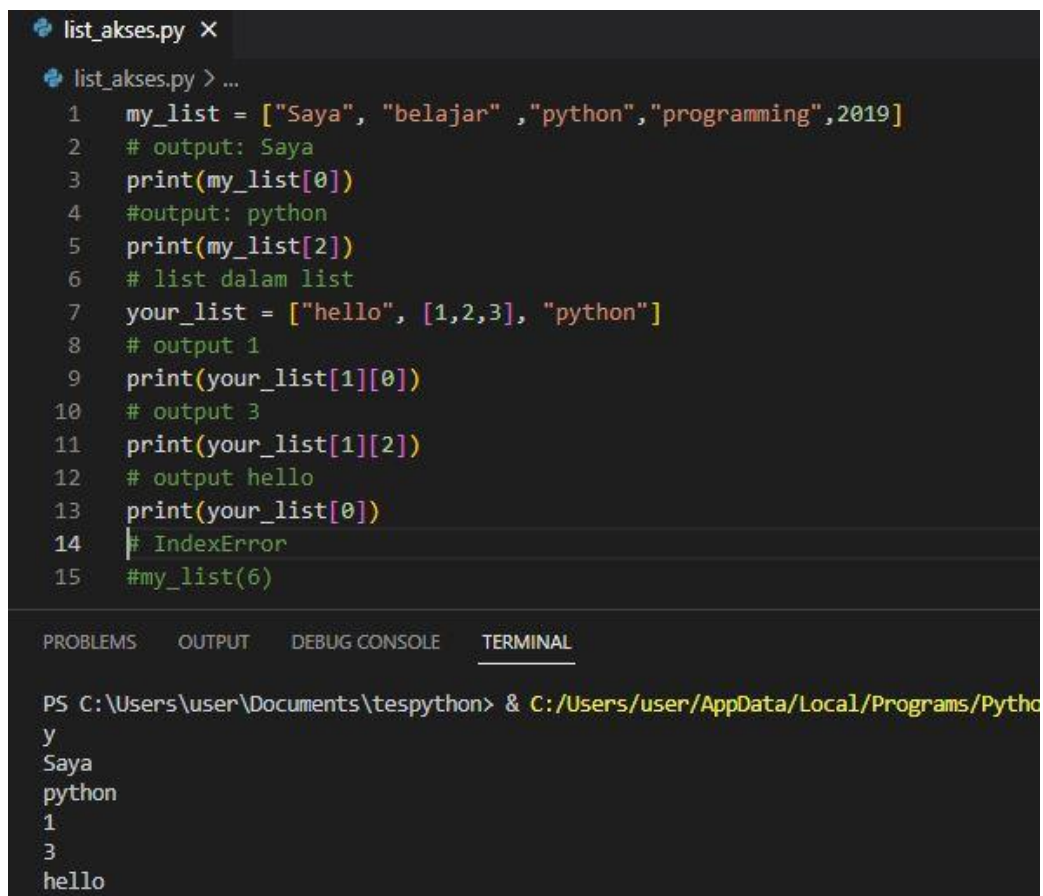
```
1 kata = "HelloWorld"
2
3 print(kata[3:6])
4 print(kata[7:])
5
```

Below the code editor, there are tabs for 'PROBLEMS', 'OUTPUT', 'DEBUG CONSOLE', and 'TERMINAL'. The 'TERMINAL' tab is selected, showing the command prompt output:

```
PS C:\Users\user\Documents\tespython> &
py
low
rld
```

List

#mengakses anggota list



The screenshot shows a Python IDE with a tab for 'list_akses.py'. The code editor displays the following code:

```
1 my_list = ["Saya", "belajar", "python", "programming", 2019]
2 # output: Saya
3 print(my_list[0])
4 #output: python
5 print(my_list[2])
6 # list dalam list
7 your_list = ["hello", [1,2,3], "python"]
8 # output 1
9 print(your_list[1][0])
10 # output 3
11 print(your_list[1][2])
12 # output hello
13 print(your_list[0])
14 # IndexError
15 #my_list(6)
```

Below the code editor, there are tabs for 'PROBLEMS', 'OUTPUT', 'DEBUG CONSOLE', and 'TERMINAL'. The 'TERMINAL' tab is selected, showing the command prompt output:

```
PS C:\Users\user\Documents\tespython> & C:/Users/user/AppData/Local/Programs/Python
y
Saya
python
1
3
hello
```


#list dengan indeks negative

```
list_negatif.py X
list_negatif.py > ...
1 my_list = ['p','y','t','h','o','n']
2 #output: n
3 print(my_list[-1])
4 #output: h
5 print(my_list[-3])
6 |

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL

PS C:\Users\user\Documents\tespython> & C:/Users/user/AppData/Local/Programs/Python/Python39-64/python.exe C:/Users/user/Documents/tespython/list_negatif.py
n
h
```

#memotong list

```
list_memotong.py X
list_memotong.py > ...
1 my_list = ['p','y','t','h','o','n','s','a','y','a']
2 # anggota list dari 3 s/d 5 (dari h s/d n)
3 print(my_list[3:6])
4
5 # anggota list dari 4 s/d yang terakhir
6 print(my_list[4:])
7
8 # anggota list dari 6 s/d 4
9 print(my_list[:5])

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL

PS C:\Users\user\Documents\tespython> & C:/Users/user/AppData/Local/Programs/Python/Python39-64/python.exe C:/Users/user/Documents/tespython/list_memotong.py
['h', 'o', 'n']
['o', 'n', 's', 'a', 'y', 'a']
['p', 'y', 't', 'h', 'o']
```

#mengubah anggota list

```
list_ubah_anggota.py X
list_ubah_anggota.py > ...
1  # misal ada nilai yang salah
2  ganjil = [1,3,4,7,9]
3  print("Item Awal : ", ganjil)
4
5  # ubah item ke 3 (indeks ke 2)
6  ganjil[2] = 5
7  print(ganjil)
8
9  # mengubah sekali banyak
10 ganjil[2:5] = [11,13,15]
11 print(ganjil)
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL

```
PS C:\Users\user\Documents\tespython> & C:/Users/user/AppData/Local/Programs/Python/Python39-64/Python.exe C:/Users/user/AppData/Local/Programs/Python/Python39-64/Python.exe list_ubah_anggota.py
Item Awal :  [1, 3, 4, 7, 9]
[1, 3, 5, 7, 9]
[1, 3, 11, 13, 15]
```

#menambah anggota list

```
list_ubah_anggota.py list_tambah_anggota.py X
list_tambah_anggota.py > ...
1  ganjil = [1,3,5,7]
2
3  ganjil.append(9)
4  print(ganjil)
5  [1,3,5,7,9]
6
7  ganjil.extend([11,13,15])
8  print(ganjil)
9  [1,3,5,7,9,11,13, 15]
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL

```
PS C:\Users\user\Documents\tespython> & C:/Users/user/AppData/Local/Programs/Python/Python39-64/Python.exe C:/Users/user/AppData/Local/Programs/Python/Python39-64/Python.exe list_tambah_anggota.py
[1, 3, 5, 7, 9]
[1, 3, 5, 7, 9, 11, 13, 15]
```

#menggabung list dengan Operator

```
list_gabung.py > ...
1  genap = [2, 4, 6]
2  print(genap + [8, 10, 12])
3  # output (2, 4, 6, 8, 10, 12)
4
5  print(['p', 'y'] * 2)
6  # output ['p', 'y', 'p', 'y']
7  |
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL

```
PS C:\Users\user\Documents\tespython> & C:/Users/user/AppData\Local\Microsoft\WindowsApps\PythonSoftwareFoundation.Python.3.11_x-ww8296cc51\python.exe C:\Users\user\Documents\tespython\list_gabung.py
[2, 4, 6, 8, 10, 12]
['p', 'y', 'p', 'y']
```

#menyisipkan anggota list

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

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL

```
PS C:\Users\user\Documents\tespython> & C:/Users/user/AppData\Local\Microsoft\WindowsApps\PythonSoftwareFoundation.Python.3.11_x-ww8296cc51\python.exe C:\Users\user\Documents\tespython\list_insert.py
[5, 7, 9, 11, 13, 15]
```

#menghapus anggota list

```
list_hapus_anggota.py > ...
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', 'y', '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)
21
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL

```
PS C:\Users\user\Documents\tespython> & C:/Users/user/AppData/Local/Programs/Python/Python310/python.exe 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\user\Documents\tespython>
```

#mengurutkan anggota list

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

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL

```
PS C:\Users\user\Documents\tespython> & C:/Users/user/AppData/Local/Programs/Python/Python39-64/Python.exe C:\Users\user\Documents\tespython\list_urut_anggota.py
['a', 'b', 'c', 'd', 'e', 'f', 'g', 'h', 'i', 'j']
['j', 'i', 'h', 'g', 'f', 'e', 'd', 'c', 'b', 'a']
```

#membalik urutan List

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

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL

```
PS C:\Users\user\Documents\tespython> & C:/Users/user/AppData/Local/Programs/Python/Python39-64/Python.exe C:\Users\user\Documents\tespython\list_balik_urutan.py
['b', 'e', 'd', 'c', 'a']
```

4.Python –Modul 3

Tuple

#membuat tuple

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

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL

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


#mengakses tuple

```
tuple_akses.py X
tuple_akses.py > ...
1 tuple1 = ('p','y','t','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: 'o'
12 print(tuple1[-2])
13
14 # IndexError
15 #print(tuple1[6])
16
17 #Gambar 52 Mengakses Tuple
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL

```
PS C:\Users\user\Documents\tespython> & C:/Users/user/AppData/Local/Programs/Python/Python39-64/Python.exe C:\Users\user\Documents\tespython\tuple_akses.py
p
y
n
o
PS C:\Users\user\Documents\tespython>
```


#mengakses tuple dengan range

```
tuple_akses_range.py > tuple1
1 tuple1 = ('p','r','o','g','r','a','m','m','i','i','n','g')
2 # akses dari indeks 0 s/d 2
3
4 # output: ('p','r','o')
5 print(tuple1[:3])
6
7 # Akses dari indeks 2 s/d 5
8 # output: ('o', 'g', 'r', 'a')
9 print(tuple1[2:6])
10
11 # Akses dari indeks 3 sampai akhir
12 # output: ('g', 'r', 'a', 'm', 'm', 'i', 'n', 'g')
13 print(tuple1[3:])
14
15 #Gambar 53 Mengakses Tuple dengan Range
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL

```
PS C:\Users\user\Documents\tespython> & C:/Users/user/AppData/Local/Programs/Python/Python310/python.exe tuple_akses_range.py
('p', 'r', 'o')
('o', 'g', 'r', 'a')
('g', 'r', 'a', 'm', 'm', 'i', 'n', 'g')
```

#mengubah anggota tuple

```
tuple_ubah_anggota.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 #tuple1[1] = 8
6 # tapi list di dalam tuple bisa diubah
7 # output: (2, 3, 4, [7, 6])
8 tuple1[3][0] = 7
9 print(tuple1)
10 # tuple bisa diganti secara keseluruhan dengan penugasan kembali
11 tuple1 = ('p','y','t','h','o','n')
12 print(tuple1)
13
14 # anggota tuple juga tidak bisa dihapus menggunakan del
15 # perintah berikut akan menghasilkan error TypeError
16 # kalau Anda menghilangkan tanda komentar #
17
18 #del tuple1[0]
19 # kita bisa menghapus tuple keseluruhan
20 del tuple1
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL

```
PS C:\Users\user\Documents\tespython> & C:/Users/user/AppData/Local/Programs/Python/Python310/python.exe tuple_ubah_anggota.py
(2, 3, 4, [7, 6])
('p', 'y', 't', 'h', 'o', 'n')
```

#menguji anggota tuple

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

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL

```
PS C:\Users\user\Documents\tespython> & C:/Users/user/AppData/Local/Programs/Python/Python39-64/Python.exe tuple_uji_anggota.py
True
False
False
True
```

#literasi pada tuple

```
tuple_literasi.py > ...
1  # output:
2  # Hai Sistem
3  # Hai Informasi
4  nama = ('Sistem', 'Informasi')
5  for a in nama:
6  |     print('Hai', a)
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL

```
PS C:\Users\user\Documents\tespython> & C:/Users/user/AppData/Local/Programs/Python/Python39-64/Python.exe tuple_literasi.py
Hai Sistem
Hai Informasi
```

#Fungsi Bawaan Tuple

```
tuple_fungsi.py > ...
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'))
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL

```
PS C:\Users\user\Documents\tespython> & C:/Users/user/AppData/Local/Programs/Python/Python310/python.exe C:\Users\user\Documents\tespython\tuple_fungsi.py
2
4
```

Set

#membuat set

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

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL

```
PS C:\Users\user\Documents\tespython> & C:/Users/user/AppData/Local/Programs/Python/Python310/python.exe C:\Users\user\Documents\tespython\set1.py
{1, 2, 3}
{1, 2, 3}
{1, 2.0, (3, 4, 5), 'Python'}
{1, 2, 3}
Traceback (most recent call last):
  File "c:\Users\user\Documents\tespython\set1.py", line 20, in <module>
    set_saya = {1,2,[3,4,5]}
TypeError: unhashable type: 'list'
```

#set kosong

```
set_kosong.py > ...
1  # membuat variabel a dengan 1)
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 DEBUG CONSOLE TERMINAL

PS C:\Users\user\Documents\tespython> & C:/Users/user/Python/Python310/Python310.exe set_kosong.py

<class 'dict'>
<class 'set'>

#Mengubah anggota set

```
set_ubah_anggota.py > ...
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)
10 set_saya.add(4)
11 print(set_saya)
12
13 # menambah beberapa anggota
14 # set akan menghilangkan duplikasi
15 # output: (1,2,3,4,5,6)
16 set_saya.update([3,4,5,6])
17 print (set_saya)
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL

PS C:\Users\user\Documents\tespython> & C:/Users/user/AppData/Local/Programs/Python/Python310/Python310.exe set_ubah_anggota.py

{1, 2, 3}
{1, 2, 3, 4}
{1, 2, 3, 4, 5, 6}

#Menghapus Anggota Set

```
set_hapus_anggota.py > ...
1  # membuat set baru
2  set_saya = {1, 2, 3, 4, 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
13 set_saya.remove(5)
14 print(set_saya)
15
16 # anggota yang mau dihapus tidak ada dalam set
17 # discard tidak akan memunculkan error
18 # output: {1, 2, 3}}
19 set_saya.discard(6)
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL

```
PS C:\Users\user\Documents\tespython> & C:/Users/user/AppData/Local/Programs/Python/Python39-64/Python.exe set_hapus_anggota.py
{1, 2, 3, 4, 5}
{1, 2, 3, 5}
{1, 2, 3}
```


#Menghapus anggota Set Secara Random dengan pop()

```
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 DEBUG CONSOLE **TERMINAL** [Open file in editor \(ctrl + click\)](#)

PS C:\Users\user\Documents\tespython> & C:/Users/user/AppData/Local/Python/Python39-64/Python.exe set_hapus_anggota2.py

{'n', 't', 'p', 'y', 'h', 'o', 'H', 'l', 'e'}

n

{'t', 'p', 'y', 'h', 'o', 'H', 'l', 'e'}

t

{'p', 'y', 'h', 'o', 'H', 'l', 'e'}

set()

#operasi gabungan

```
set_union.py > ...
1  # Membuat set A and B
2  A = {1, 2, 3, 4, 5}
3  B = {4, 5, 6, 7, 8}
4
5  # Gabungan 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 DEBUG CONSOLE TERMINAL

PS C:\Users\user\Documents\tespython> & C:/Users/user/...

{1, 2, 3, 4, 5, 6, 7, 8}

#Operasi irisan


```
set_intersection.py > ...
1  # Membuat set A and 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)
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL

```
PS C:\Users\user\Documents\tespython> & C:/Users/user/tespython.py
{4, 5}
```

#Operasi Selisih (Difference) dengan set

```
set_difference.py > ...
1  # membuat A and 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 - pada B
13 # Output: (8, 6, 7)
14 print(B - A)
15
16 # Output: {8, 6, 7}
17 B.difference(A)
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL

```
PS C:\Users\user\Documents\tespython> & C:/Users/user/AppData/Local/Programs/Python/Python39-6/python.exe C:/Users/user/AppData/Local/Programs/Python/Python39-6/python.exe set_difference.py
{1, 2, 3}
{8, 6, 7}
```

#Operasi Komplemen (Symmetric Difference) dengan set

```
set_symetric_difference.py > ...
1  # membuat A and 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, 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)
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL

```
PS C:\Users\user\Documents\tespython> & C:/Users/user/AppData/Local/Programs/Python/Python39-6/python.exe C:/Users/user/AppData/Local/Programs/Python/Python39-6/python.exe set_symetric_difference.py
{1, 2, 3, 6, 7, 8}
{1, 2, 3, 6, 7, 8}
```

Dictionary

#Membuat Dictionary

```
dictionary1.py > ...
2 dict1= {}
3 print(dict1)
4
5 # dictionary dengan kunci integer
6 dict1 = {1: 'sepatu', 2: 'tas'}
7 print(dict1)
8
9 # dictionary dengan kunci campuran
10 dict1 = {'warna': 'merah', 1: [2,3,5]}
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)
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL

```
PS C:\Users\user\Documents\tespython> & C:/Users/user/AppData/Local/Python
py
{}
{1: 'sepatu', 2: 'tas'}
{'warna': 'merah', 1: [2, 3, 5]}
{'1': 'sepatu', '2': 'bola'}
{'m': 8, 'n': 9, 'o': 10}
```

#Mengakses Anggota Dictionary

```
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 DEBUG CONSOLE TERMINAL

```
PS C:\Users\user\Documents\tespython> & C:/Users/user/AppData/Local/Programs/Python/Python39-64/Python.exe dictionary_akses_anggota.py
Budi
27
None
```

#Mengubah Anggota Dictionary

```
dictionary_ubah_anggota.py > ...
1 dict_saya = {'nama' : 'Ikhsan', 'usia':35}
2
3 # mengupdate nilai
4 dict_saya ['usia'] = 36
5 # Output: ('nama': 'Ikhsan', 'usia':36)
6 print(dict_saya)
7
8 # menambah anggota
9 dict_saya['alamat'] = 'Tanjungpinang'
10 # output: {'alamat': 'Tanjungpinang', 'nama' : 'Ikhsan', 'usia' :36}
11 print(dict_saya)
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL

```
PS C:\Users\user\Documents\tespython> & C:/Users/user/AppData/Local/Programs/Python/Python39-64/Python.exe dictionary_ubah_anggota.py
{'nama': 'Ikhsan', 'usia': 36}
{'nama': 'Ikhsan', 'usia': 36, 'alamat': 'Tanjungpinang'}
```

#Menghapus Anggota Dictionary

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

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL

```
apus_anggota.py
9
(5, 25)
{1: 1, 2: 4, 4: 16}
{1: 1, 4: 16}
```