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Modul 2

Latihan 1

The image shows two windows from a Windows operating system. The top window is a Python 3.7.6 Shell, and the bottom window is a Python script editor.

Python 3.7.6 Shell:

```
Python 3.7.6 (tags/v3.7.6:643364a7ae0, Dec 19 2019, 00:42:30) [MSC v.1916 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>> import ModulePythonPertamaku
>>> ModulePythonPertamaku.ucapkanSalam()
Assalamu'alikum
>>> ModulePythonPertamaku.kuadratkan(5)
25
>>> ModulePythonPertamaku.buah
'Mangga'
>>> import ModulePythonPertamaku as mpp
>>> mpp.ucapkanSalam()
Assalamu'alikum
>>> mpp.daftarBaju
['batik', 'loreng', 'resmi berdasi']
>>> mpp.jumlahBaju
3
>>> from ModulePythonPertamaku import ucapkanSalam as ucap
>>> ucap()
Assalamu'alikum
>>> dir()
['ModulePythonPertamaku', '__annotations__', '__builtins__', '__doc__', '__loader__', '__name__', '__package__', '__spec__', 'mpp', 'ucap']
>>> import math as m
>>> dir()
['ModulePythonPertamaku', '__annotations__', '__builtins__', '__doc__', '__loader__', '__name__', '__package__', '__spec__', 'm', 'mpp', 'ucap']
>>> dir(m)
['__doc__', '__loader__', '__name__', '__package__', '__spec__', 'acos', 'acosh', 'asin', 'asinh', 'atan', 'atan2', 'atanh', 'ceil', 'copysign', 'cos', 'cosh', 'degrees', 'e', 'erf', 'erfc', 'exp', 'expm1', 'fabs', 'factorial', 'floor', 'fmod', 'frexp', 'fsum', 'gamma', 'gcd', 'hypot', 'inf', 'isclose', 'isfinite', 'isinf', 'isnan', 'ldexp', 'lgamma', 'log', 'log10', 'loglp', 'log2', 'modf', 'nan', 'pi', 'pow', 'radians', 'remainder', 'sin', 'sinh', 'sqrt', 'tan', 'tanh', 'tau', 'trunc']
>>> from sys import *
>>> dir()
['ModulePythonPertamaku', '__annotations__', '__builtins__', '__doc__', '__loader__', '__name__', '__package__', '__spec__', 'api_version', 'argv', 'base_exec_prefix', 'base_prefix', 'breakpointhook', 'builtin_module_names', 'byteorder', 'call_tracing', 'callstats', 'copyright', 'displayhook', 'dlhandle', 'dont_write_bytecode', 'exc_info', 'excepthook', 'exec_prefix', 'executable', 'exit', 'flags', 'float_repr_style', 'get_asynogen_hooks', 'get_coroutine_origin_tracking_depth', 'get_coroutine_wrapper', 'get_allocatedblocks', 'getcheckinterval', 'getdefaultencoding', 'getfilesystemencodingerrors', 'getfilesystemencoding', 'getprofile', 'getrecursionlimit', 'getreccount', 'getsizeof', 'getswitchinterval', 'gettrace', 'getwindowsversion', 'hash_info', 'hexversion', 'implementation', 'int_info', 'intern', 'is_finalizing', 'm', 'maxsize', 'maxunicode', 'meta_path', 'module', 'mpp', 'path', 'path_hooks', 'path_importer_cache', 'platform', 'prefix', 'set_asynogen_hooks', 'set_coroutine_origin_tracking_depth', 'set_coroutine_wrapper', 'setcheckinterval', 'setprofile', 'setrecursionlimit', 'setswitchinterval', 'settrace', 'stderr', 'stdin', 'stdout', 'thread_info', 'ucap', 'version', 'version_info', 'warnoptions', 'winver']
>>>
```

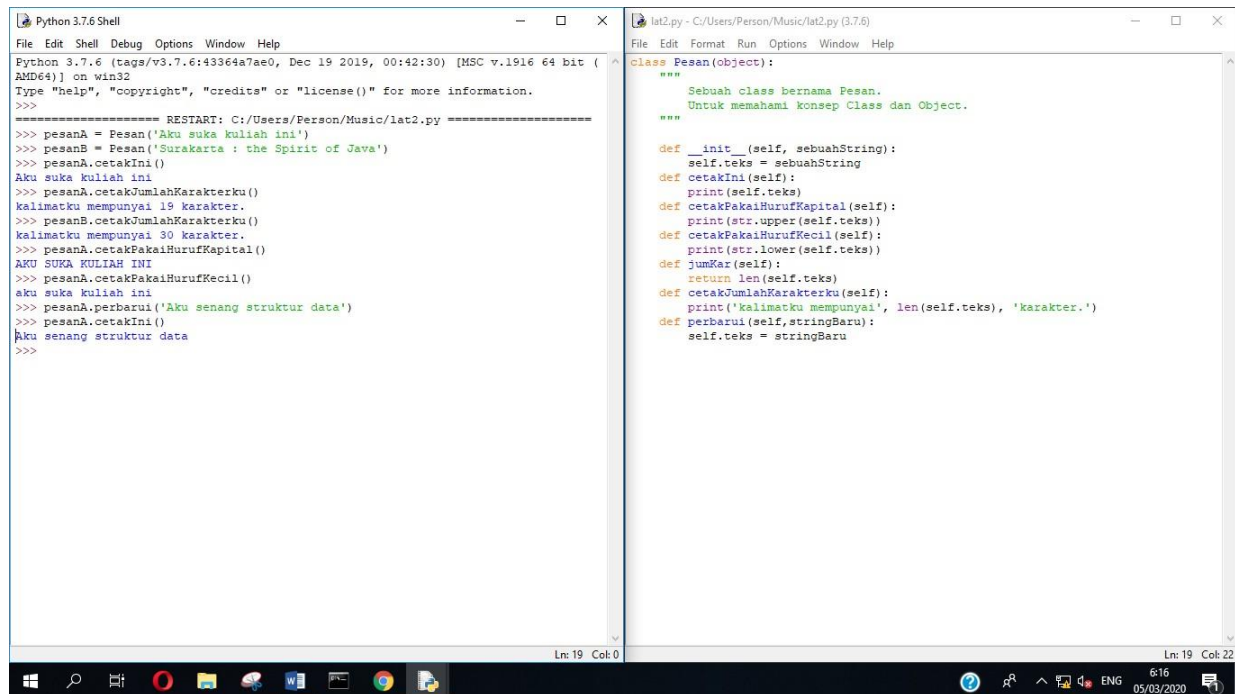
Python Script Editor (lat1.py):

```
def ucapkanSalam():
    print("Assalamualaikum")

def kuadratkan(x):
    return x*x

buah = 'mangga'
daftarBaju = ['batik', 'loreng', 'resmi berdasi']
jumlahBaju = len(daftarBaju)
```

Latihan 2



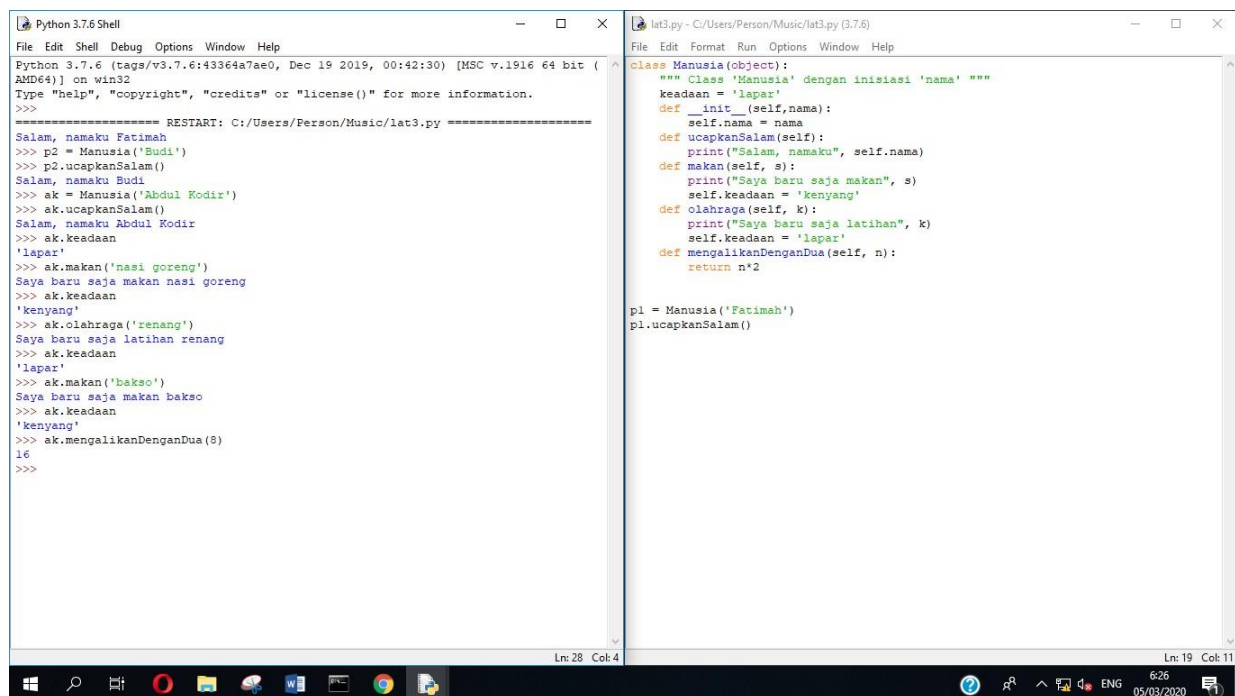
The screenshot shows a Python 3.7.6 IDE with two windows. The left window, titled 'Python 3.7.6 Shell', displays the execution of a script 'lat2.py'. The right window, titled 'lat2.py - C:/Users/Person/Music/lat2.py (3.7.6)', shows the source code of the script.

```
Python 3.7.6 Shell
File Edit Shell Debug Options Window Help
Python 3.7.6 (tags/v3.7.6:43364a7ae0, Dec 19 2019, 00:42:30) [MSC v.1916 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
===== RESTART: C:/Users/Person/Music/lat2.py =====
>>> pesanA = Pesan('Aku suka kuliah ini')
>>> pesanB = Pesan('Surakarta : the Spirit of Java')
>>> pesanA.cetakIni()
Aku suka kuliah ini
>>> pesanA.cetakJumlahKarakterku()
kalimatku mempunyai 19 karakter.
>>> pesanB.cetakJumlahKarakterku()
kalimatku mempunyai 30 karakter.
>>> pesanA.cetakPakaiHurufKapital()
AKU SUKA KULIAH INI
>>> pesanA.cetakPakaiHurufKecil()
aku suka kuliah ini
>>> pesanA.perbarui('Aku senang struktur data')
>>> pesanA.cetakIni()
aku senang struktur data
>>>
```

```
lat2.py - C:/Users/Person/Music/lat2.py (3.7.6)
File Edit Format Run Options Window Help
class Pesan(object):
    """
    Sebuah class bernama Pesan.
    Untuk memahami konsep Class dan Object.
    """

    def __init__(self, sebuahString):
        self.teks = sebuahString
    def cetakIni(self):
        print(self.teks)
    def cetakPakaiHurufKapital(self):
        print(str.upper(self.teks))
    def cetakPakaiHurufKecil(self):
        print(str.lower(self.teks))
    def jumKar(self):
        return len(self.teks)
    def cetakJumlahKarakterku(self):
        print('kalimatku mempunyai', len(self.teks), 'karakter.')
    def perbarui(self, stringBaru):
        self.teks = stringBaru
```

Latihan 3



The screenshot shows a Python 3.7.6 IDE with two windows. The left window, titled 'Python 3.7.6 Shell', displays the execution of a script 'lat3.py'. The right window, titled 'lat3.py - C:/Users/Person/Music/lat3.py (3.7.6)', shows the source code of the script.

```
Python 3.7.6 Shell
File Edit Shell Debug Options Window Help
Python 3.7.6 (tags/v3.7.6:43364a7ae0, Dec 19 2019, 00:42:30) [MSC v.1916 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
===== RESTART: C:/Users/Person/Music/lat3.py =====
Salam, namaku Fatimah
>>> p2 = Manusia('Budi')
>>> p2.ucapkanSalam()
Salam, namaku Budi
>>> ak = Manusia('Abdul Kodir')
>>> ak.ucapkanSalam()
Salam, namaku Abdul Kodir
>>> ak.keadaan
'lapar'
>>> ak.makan('nasi goreng')
Saya baru saja makan nasi goreng
>>> ak.keadaan
'kenyang'
>>> ak.olahraga('renang')
Saya baru saja latihan renang
>>> ak.keadaan
'lapar'
>>> ak.makan('bakso')
Saya baru saja makan bakso
>>> ak.keadaan
'kenyang'
>>> ak.mengalikanDenganDua(8)
16
>>>
```

```
lat3.py - C:/Users/Person/Music/lat3.py (3.7.6)
File Edit Format Run Options Window Help
class Manusia(object):
    """Class 'Manusia' dengan inisiasi 'nama'"""
    keadaan = 'lapar'
    def __init__(self, nama):
        self.nama = nama
    def ucapkanSalam(self):
        print("Salam, namaku", self.nama)
    def makan(self, s):
        print("Saya baru saja makan", s)
        self.keadaan = 'kenyang'
    def olahraga(self, k):
        print("Saya baru saja latihan", k)
        self.keadaan = 'lapar'
    def mengalikanDenganDua(self, n):
        return n*2

p1 = Manusia('Fatimah')
p1.ucapkanSalam()
```

Latihan 4

```
Python 3.7.6 Shell
File Edit Shell Debug Options Window Help
Python 3.7.6 (tags/v3.7.6:43364a7ae0, Dec 19 2019, 00:42:30) [MSC v.1916 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
===== RESTART: C:/Users/Person/Music/lat4.py =====
Salam, namaku Fatimah
>>> m1 = Mahasiswa('Jamil', 234, 'Surakarta', 250000)
>>> m2 = Mahasiswa('Andi', 365, 'Magelang', 1000000)
>>> m3 = Mahasiswa('Sri', 676, 'Yogyakarta', 240000)
>>> m1.ambilNama()
'Jamil'
>>> m2.ambilNIM()
365
>>> m3.ucapkanSalam()
Salam, namaku Sri
>>> m3.keadaan
'laper'
>>> m3.makan('gado-gado')
Saya baru saja makan gado-gado sambil belajar.
>>> m3.keadaan
'kenyang'
>>> print(m3)
Sri, NIM 676. Tinggal di Yogyakarta. Uang Saku Rp 240000. tiap bulannya.
>>> |

lat4.py - C:/Users/Person/Music/lat4.py (3.7.6)
File Edit Format Run Options Window Help
from lat3 import Manusia
class Mahasiswa(Manusia):
    """Class Mahasiswa yang dibangun dari class Manusia"""
    def __init__(self, nama, NIM, kota, us):
        """Metode inisiasi ini menutupi metode inisiasi di class Manusia."""
        self.nama = nama
        self.NIM = NIM
        self.kotaTinggal = kota
        self.uangSaku = us
    def __str__(self):
        s = self.nama + ', NIM ' + str(self.NIM)\
            + '. Tinggal di ' + self.kotaTinggal\
            + '. Uang Saku Rp ' + str(self.uangSaku)\
            + '. tiap bulannya.'
        return s
    def ambilNama(self):
        return self.nama
    def ambilNIM(self):
        return self.NIM
    def ambilUangSaku(self):
        return self.uangSaku
    def makan(self, s):
        """Metode ini menutupi metode 'makan'-nya class Manusia.
        Mahasiswa kalau makan sambil belajar."""
        print("Saya baru saja makan", s, "sambil belajar.")
        self.keadaan = 'kenyang'
```

Latihan 5

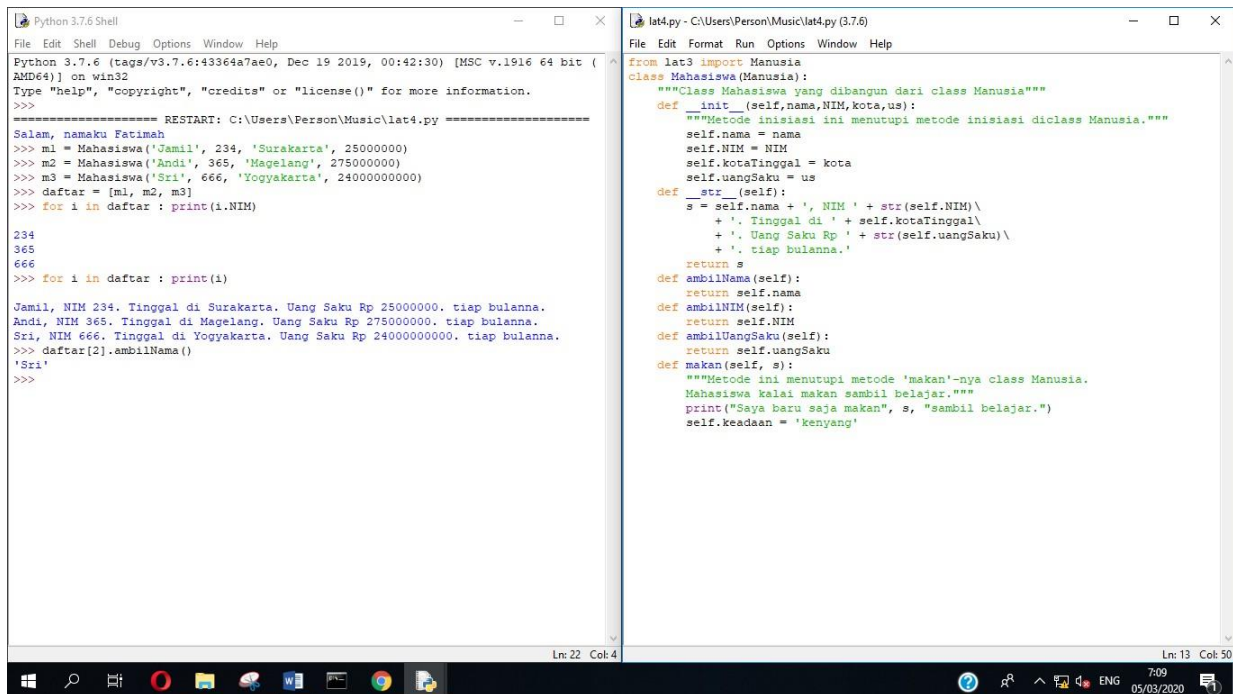
```
lat5.py - C:/Users/Person/Music/lat5.py (3.7.6)
File Edit Format Run Options Window Help
from lat4 import Mahasiswa
class MhsTIF(Mahasiswa):
    """Class mhsTIF yang dibangun dari class Mahasiswa"""
    def katakanPy(self):
        print('Python is cool.')

Python 3.7.6 Shell
File Edit Shell Debug Options Window Help
Python 3.7.6 (tags/v3.7.6:43364a7ae0, Dec 19 2019, 00:42:30) [MSC v.1916 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
===== RESTART: C:/Users/Person/Music/lat5.py =====
Salam, namaku Fatimah
>>> m4 = MhsTIF('Badu', 334, 'Sragen', 2300000)
>>> m4.katakanPy()
Python is cool.
>>> print(m4)
Badu, NIM 334. Tinggal di Sragen. Uang Saku Rp 2300000. tiap bulannya.
>>> m4.keadaan
'laper'
>>> m4.makan('pecel')
Saya baru saja makan pecel sambil belajar.
>>> m4.keadaan
'kenyang'
>>> m4.ucapkanSalam()
Salam, namaku Badu
>>> |

lat5.py - C:/Users/Person/Music/lat5.py (3.7.6)
File Edit Format Run Options Window Help
from lat4 import Mahasiswa
class MhsTIF(Mahasiswa):
    """Class mhsTIF yang dibangun dari class Mahasiswa"""
    def katakanPy(self):
        print('Python is cool.')

Python 3.7.6 Shell
File Edit Shell Debug Options Window Help
Python 3.7.6 (tags/v3.7.6:43364a7ae0, Dec 19 2019, 00:42:30) [MSC v.1916 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
===== RESTART: C:/Users/Person/Music/lat5.py =====
Salam, namaku Fatimah
>>> m4 = MhsTIF('Badu', 334, 'Sragen', 2300000)
>>> m4.katakanPy()
Python is cool.
>>> print(m4)
Badu, NIM 334. Tinggal di Sragen. Uang Saku Rp 2300000. tiap bulannya.
>>> m4.keadaan
'laper'
>>> m4.makan('pecel')
Saya baru saja makan pecel sambil belajar.
>>> m4.keadaan
'kenyang'
>>> m4.ucapkanSalam()
Salam, namaku Badu
>>> |
```

Latihan 6

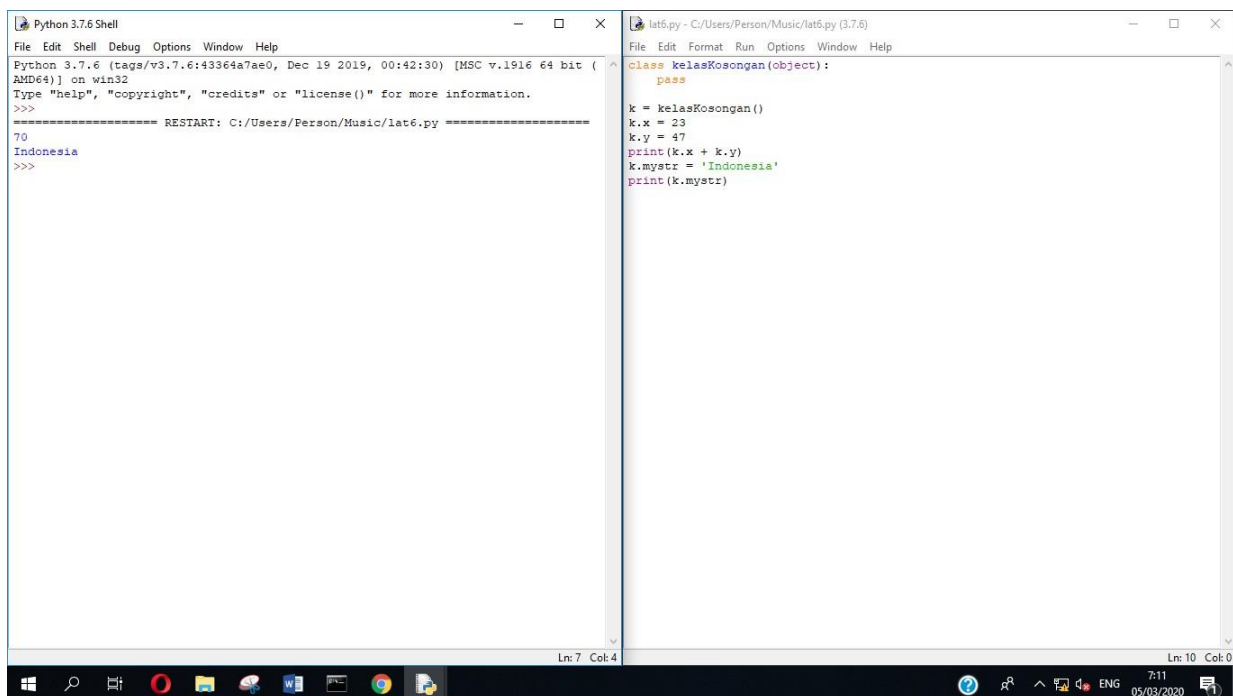


The image shows two side-by-side Python 3.7.6 Shell windows. The left window displays the execution of a script named `lat4.py`, which defines a `Mahasiswa` class and creates three instances: `Jamil`, `Andi`, and `Sri`. The right window shows the source code of `lat4.py`, which imports a `Manusia` class from `lat3.py` and defines the `Mahasiswa` class with attributes `nama`, `NIM`, `kotaTinggal`, and `uangSaku`. It also includes methods for initialization, string representation, and specific actions like `ambilNama`, `ambilNIM`, `ambilUangSaku`, and `makan`.

```
Python 3.7.6 Shell
File Edit Shell Debug Options Window Help
Python 3.7.6 (tags/v3.7.6:43364a7ae0, Dec 19 2019, 00:42:30) [MSC v.1916 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
===== RESTART: C:\Users\Person\Music\lat4.py =====
Salem, namaku Fatimah
>>> m1 = Mahasiswa('Jamil', 234, 'Surakarta', 25000000)
>>> m2 = Mahasiswa('Andi', 365, 'Magelang', 275000000)
>>> m3 = Mahasiswa('Sri', 666, 'Yogyakarta', 24000000000)
>>> daftar = [m1, m2, m3]
>>> for i in daftar : print(i.NIM)
234
365
666
>>> for i in daftar : print(i)
Jamil, NIM 234. Tinggal di Surakarta. Uang Saku Rp 25000000. tiap bulanna.
Andi, NIM 365. Tinggal di Magelang. Uang Saku Rp 275000000. tiap bulanna.
Sri, NIM 666. Tinggal di Yogyakarta. Uang Saku Rp 24000000000. tiap bulanna.
>>> daftar[2].ambilNama()
'Sri'
>>>
```

```
lat4.py - C:\Users\Person\Music\lat4.py (3.7.6)
File Edit Format Run Options Window Help
from lat3 import Manusia
class Mahasiswa(Manusia):
    """Class Mahasiswa yang dibangun dari class Manusia"""
    def __init__(self, nama, NIM, kota, us):
        """Metode inisiasi ini menutupi metode inisiasi di class Manusia."""
        self.nama = nama
        self.NIM = NIM
        self.kotaTinggal = kota
        self.uangSaku = us
    def __str__(self):
        s = self.nama + ', NIM ' + str(self.NIM)\
            + '. Tinggal di ' + self.kotaTinggal\
            + '. Uang Saku Rp ' + str(self.uangSaku)\
            + '. tiap bulanna.'
        return s
    def ambilNama(self):
        return self.nama
    def ambilNIM(self):
        return self.NIM
    def ambilUangSaku(self):
        return self.uangSaku
    def makan(self, s):
        """Metode ini menutupi metode 'makan'-nya class Manusia.
        Mahasiswa kalau makan sambil belajar."""
        print("Saya baru saja makan", s, "sambil belajar.")
        self.keadaan = 'kenyang'
```

Latihan 7



The image shows two side-by-side Python 3.7.6 Shell windows. The left window displays the execution of a script named `lat6.py`, which defines a `KelasKosongkan` class and creates an instance `k`. The right window shows the source code of `lat6.py`, which imports a `KelasKosongkan` class from `lat5.py` and defines the `KelasKosongkan` class with attributes `x` and `y`. It also includes methods for initialization and string representation.

```
Python 3.7.6 Shell
File Edit Shell Debug Options Window Help
Python 3.7.6 (tags/v3.7.6:43364a7ae0, Dec 19 2019, 00:42:30) [MSC v.1916 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
===== RESTART: C:\Users\Person\Music\lat6.py =====
70
Indonesia
>>>
```

```
lat6.py - C:\Users\Person\Music\lat6.py (3.7.6)
File Edit Format Run Options Window Help
class KelasKosongkan(object):
    pass
k = KelasKosongkan()
k.x = 23
k.y = 47
print(k.x + k.y)
k.mystr = 'Indonesia'
print(k.mystr)
```

Tugas 1

```
Python 3.7.1 Shell
File Edit Shell Debug Options Window Help
Python 3.7.1 (v3.7.1:260ec2c36a, Oct 20 2018, 14:05:16) [MSC v.1915 32 bit (Intel)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
===== RESTART: C:\Users\Alyza\Documents\Prak Algostruk\tugas1.py =====
>>> kata = Pesan("Kita sebagai manusia harus saling tolong menolong")
>>> kata.apakahTerkandung('Kalong')
False
>>> kata.apakahTerkandung('hari')
False
>>> kata.apakahTerkandung('man')
True
>>> katal = Pesan('rumah kita')
>>> katal.hitungKonsonan()
5
>>> katal.hitungVokal()
4
>>>
===== RESTART: C:\Users\Alyza\Documents\Prak Algostruk\tugas1.py =====
>>> |
```

Tugas 2

```
Python 3.7.1 Shell
File Edit Shell Debug Options Window Help
Python 3.7.1 (v3.7.1:260ec2c36a, Oct 20 2018, 14:05:16) [MSC v.1915 32 bit (Intel)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
===== RESTART: C:\Users\Alyza\Documents\Prak Algostruk\tugas2.py =====
>>> data = Mahasiswa('Mohan', 434646670, 'Surakarta', 6000)
>>> data.ambilKotaTinggal()
'Surakarta'
>>> data.perbaruiKotaTinggal('Sukoharjo')
>>> data.ambilKotaTinggal()
'Sukoharjo'
>>> data.ambilUangSaku()
6000
>>> data.tambahUangSaku(10000)
>>> data.ambilUangSaku()
16000
>>>
```

Tugas 3

```
Python 3.7.1 Shell
File Edit Shell Debug Options Window Help
Python 3.7.1 (v3.7.1:260ec2c36a, Oct 20 2018, 14:05:16) [MSC v.1915 32 bit (Intel)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
===== RESTART: C:\Users\Alyza\Documents\Prak Algostruk\tugas3.py =====
Masukkan nama: Alfian
Masukkan nim: 121
Masukkan kota tinggal: Surakarta
Masukkan uang saku: 25000
>>> |
```

Tugas 4 & 5

```
Python 3.7.1 Shell
File Edit Shell Debug Options Window Help
Python 3.7.1 (v3.7.1:260ec2c36a, Oct 20 2018, 14:05:16) [MSC v.1915 32 bit (Intel)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
===== RESTART: C:\Users\Alyza\Documents\Prak Algostruk\tugas4&5.py =====
>>> data = Mahasiswa('Mohan', 434646670, 'Surakarta', 6000)
>>> data.listKuliah
[]
>>> data.ambilKuliah('Sistem Operasi')
>>> data.listKuliah
['Sistem Operasi']
>>> data.ambilKuliah('Aljabar Linier')
>>> data.listKuliah
['Sistem Operasi', 'Aljabar Linier']
>>> data.hapusKuliah('Aljabar Linier')
>>> data.listKuliah
['Sistem Operasi']
>>> |
```


Tugas 6

```
Python 3.7.1 Shell
File Edit Shell Debug Options Window Help
Python 3.7.1 (v3.7.1:260ec2c36a, Oct 20 2018, 14:05:16) [MSC v.1915 32 bit (Intel)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
===== RESTART: C:\Users\Alyza\Documents\Prak Algostruk\tugas6.py =====
>>> data = SiswaSMA('Rudi',23456, 'Wonogiri', 18, 3000)
>>> data.tahunLahir()
2002
>>> |
```

Tugas 7

```
*Untitled*
File Edit Format Run Options Window Help
from mhstif import MhsTIF

a = MhsTIF('Alfian', L200180121, 'Surakarta', 25000)

a.ambilKotaTinggal() #Berasal dari class Mahasiswa
a.ambilKuliah('Sistem Operasi') #Berasal dari calss Mahasiswa
a.ambilNama() #Berasla dari class Mahasiswa
a.ambilNIM() #Berasal dari class Mahasiswa
a.ambilUangSaku #Berasal dari class Mahasiswa
a.hapusKuliah('Sistem Operasi') #Berasal dari class Mahasiswa
a.katakanPy() #Berasal dari class MhsTIF
a.keadaan #Berasal dari class Manusia
a.kota #Berasal dari class Mahasiswa
a.listKuliah #Berasal dari class Mahasiswa
a.makan() #Berasal dari class Manusia
a.mengalikanDenganDua() #Berasal dari class Manusia
a.nama #Berasal dari class Mahasiswa
a.NIM #Berasal dari class Mahasiswa
a.olahraga('sit up') #Berasal dari class Manusia
a.perbaruiKotaTinggal('Surakarta') #Berasal dari class Mahasiswa
a.tambahUangSaku(6000) #Berasal dari class Mahasiswa
a.uangSaku #Berasal dari class Mahasiswa
a.ucapkanSalam() #Berasal dari class Manusia
```

