Nama : Ismi Dzikrina

NIM : L200180010
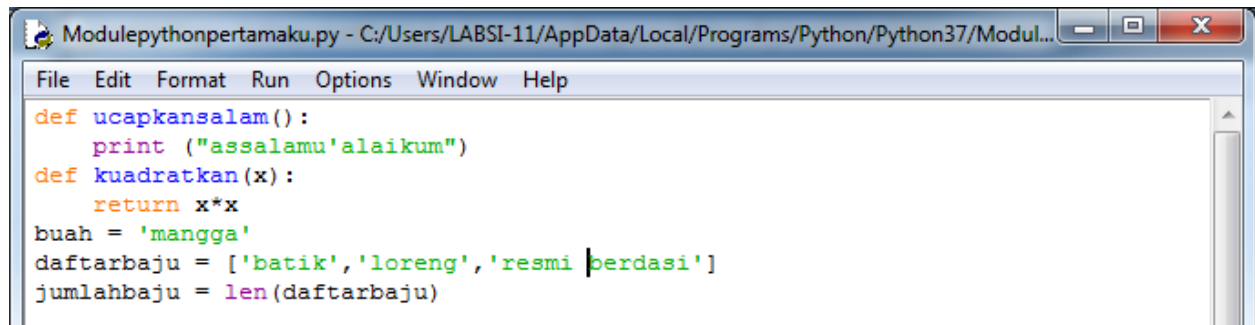
Kelas : A

Matkul : Praktikum Algoritma Dan Struktur Data

MODUL 2

MENGENAL OOP PADA PYTHON

2.1 Module


```python
def ucapkansalam():
    print ("assalamu'alaikum")
def kuadratkan(x):
    return x*x
buah = 'mangga'
daftarbaju = ['batik','loreng','resmi berdasi']
jumlahbaju = len(daftarbaju)
```
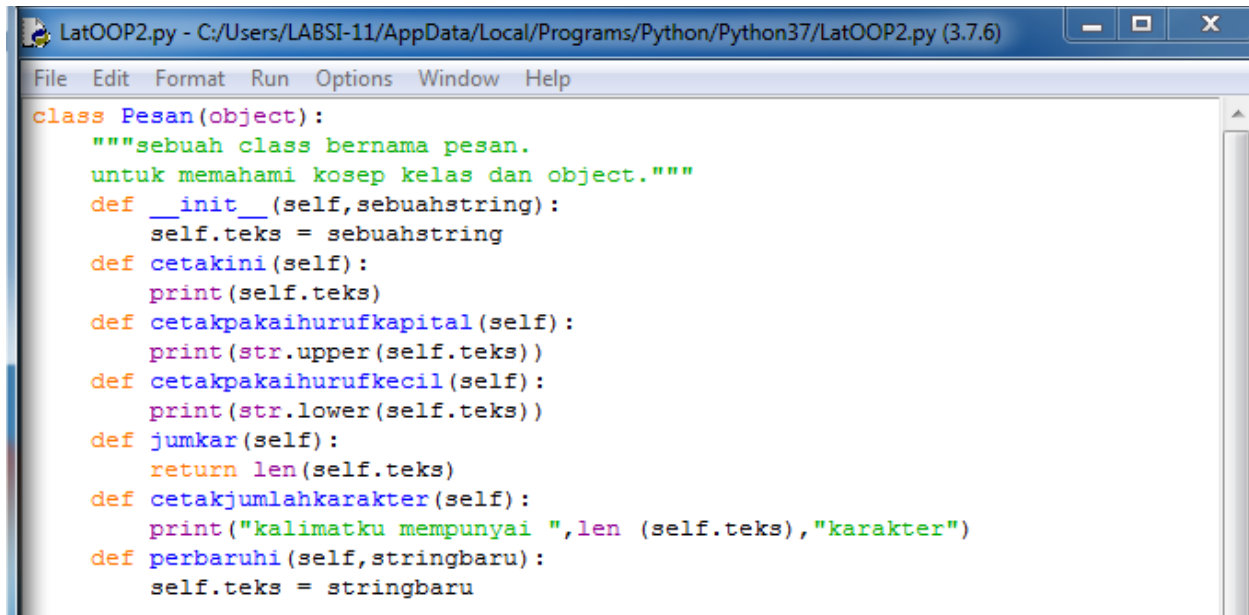
```
Python 3.7.6 Shell                                    [_][□][X]

File  Edit  Shell  Debug  Options  Window  Help

>>> import Modulepythonpertamaku
>>> Modulepythonpertamaku.ucapkansalam()
assalamu'alaikum
>>> Modulepythonpertamaku.kuadratkan(5)
25
>>> Modulepythonpertamaku.buah
'mangga'
>>> import Modulepythonpertamaku as mpp
>>> mpp.ucapkansalam()
assalamu'alaikum
>>>  mpp.daftarbaju
['batik', 'loreng'

SyntaxError: unexpected indent
>>> mpp.daftarbaju
['batik', 'loreng', 'resmi berdasi']
>>> mpp.jumlahbaju
3
>>> form Modulepythonpertamaku import kuadratkan,daftarbaju
SyntaxError: invalid syntax
>>> from Modulepythonpertamaku import kuadratkan,daftarbaju
>>> kuadratkan(8)
64
>>> daftarbaju
['batik', 'loreng', 'resmi berdasi']
>>> from Modulepythonpertamaku import ucapkansalam as ucap
>>> ucap()
assalamu'alaikum
>>> dir()
['Modulepythonpertamaku', '__annotations__', '__builtins__', '__doc__', '__loade
r__', '__name__', '__package__', '__spec__', 'daftarbaju', 'kuadratkan', 'mpp',
'ucap']
>>> import math as m
>>> dir()
['Modulepythonpertamaku', '__annotations__', '__builtins__', '__doc__', '__loade
r__', '__name__', '__package__', '__spec__', 'daftarbaju', 'kuadratkan', 'm', 'm
pp', 'ucap']
>>> dir(m)
['__doc__', '__loader__', '__name__', '__package__', '__spec__', 'acos', 'acosh'
, 'asin', 'asinh', 'atan', 'atan2', 'atanh', 'ceil', 'copysign', 'cos', 'cosh',

                                                        Ln: 43  Col: 4
```
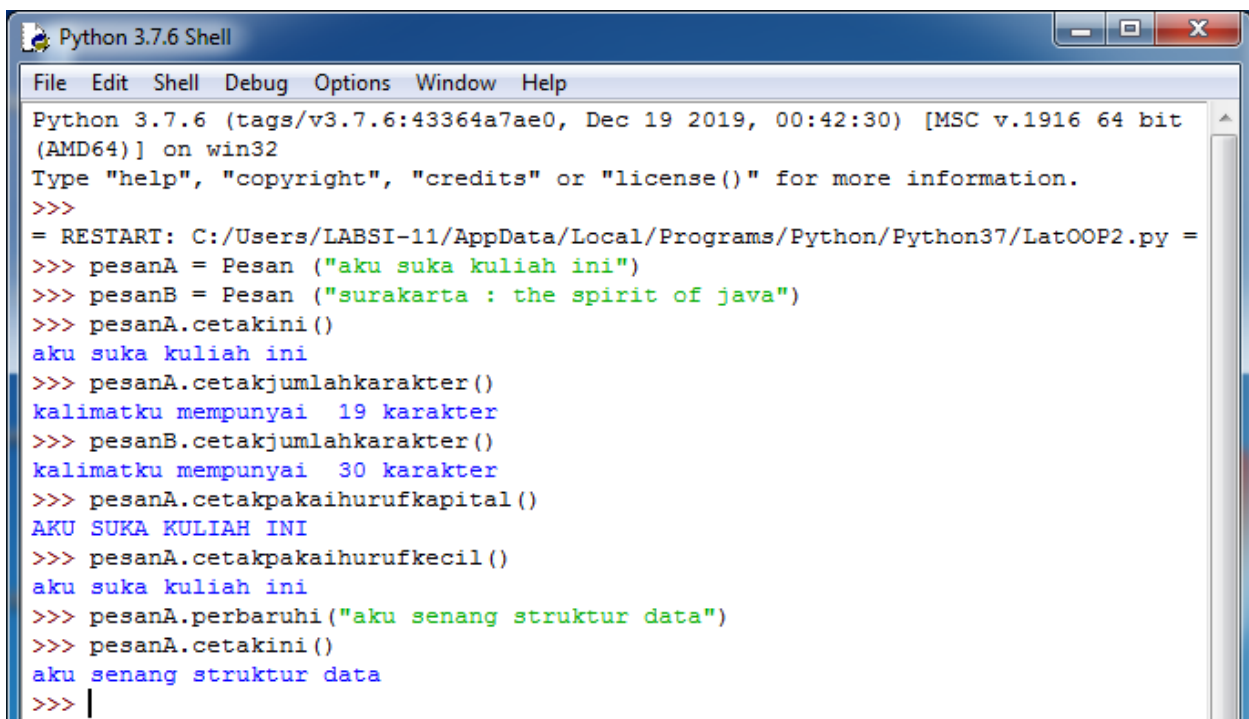
```
Python 3.7.6 Shell
File  Edit  Shell  Debug  Options  Window  Help
>>> from Modulepythonpertamaku import ucapkansalam as ucap
>>> ucap()
assalamu'alaikum
>>> dir()
['Modulepythonpertamaku', '__annotations__', '__builtins__', '__doc__', '__loade
r__', '__name__', '__package__', '__spec__', 'daftarbaju', 'kuadratkan', 'mpp',
'ucap']
>>> import math as m
>>> dir()
['Modulepythonpertamaku', '__annotations__', '__builtins__', '__doc__', '__loade
r__', '__name__', '__package__', '__spec__', 'daftarbaju', 'kuadratkan', 'm', 'm
pp', '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', 'fm
od', 'frexp', 'fsum', 'gamma', 'gcd', 'hypot', 'inf', 'isclose', 'isfinite', 'is
inf', 'isnan', 'ldexp', 'lgamma', 'log', 'log10', 'log1p', 'log2', 'modf', 'nan'
, 'pi', 'pow', 'radians', 'remainder', 'sin', 'sinh', 'sqrt', 'tan', 'tanh', 'ta
u', 'trunc']
>>> from sys import*
>>> dir()
['Modulepythonpertamaku', '__annotations__', '__builtins__', '__doc__', '__loade
r__', '__name__', '__package__', '__spec__', 'api_version', 'argv', 'base_exec_p
refix', 'base_prefix', 'breakpointhook', 'builtin_module_names', 'byteorder', 'c
all_tracing', 'callstats', 'copyright', 'daftarbaju', 'displayhook', 'dllhandle'
, 'dont_write_bytecode', 'exc_info', 'excepthook', 'exec_prefix', 'executable',
'exit', 'flags', 'float_info', 'float_repr_style', 'get_asyncgen_hooks', 'get_co
routine_origin_tracking_depth', 'get_coroutine_wrapper', 'getallocatedblocks', '
getcheckinterval', 'getdefaultencoding', 'getfilesystemencodeerrors', 'getfilesy
stemencoding', 'getprofile', 'getrecursionlimit', 'getrefcount', 'getsizeof', 'g
etswitchinterval', 'gettrace', 'getwindowsversion', 'hash_info', 'hexversion', '
implementation', 'int_info', 'intern', 'is_finalizing', 'kuadratkan', 'm', 'maxs
ize', 'maxunicode', 'meta_path', 'modules', 'mpp', 'path', 'path_hooks', 'path_i
mporter_cache', 'platform', 'prefix', 'set_asyncgen_hooks', 'set_coroutine_origi
n_tracking_depth', 'set_coroutine_wrapper', 'setcheckinterval', 'setprofile', 's
etrecursionlimit', 'setswitchinterval', 'settrace', 'stderr', 'stdin', 'stdout',
 'thread_info', 'ucap', 'version', 'version_info', 'warnoptions', 'winver']
>>>
= RESTART: C:/Users/LABSI-11/AppData/Local/Programs/Python/Python37/LatOOP2.py =
                                                                    Ln: 43  Col: 4
```

2.2 class dan object

```
class Pesan(object):
    """sebuah class bernama pesan.
    untuk memahami kosep kelas 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 cetakjumlahkarakter(self):
        print("kalimatku mempunyai ",len (self.teks),"karakter")
    def perbaruhi(self,stringbaru):
        self.teks = stringbaru
```

```
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/LABSI-11/AppData/Local/Programs/Python/Python37/LatOOP2.py =
>>> pesanA = Pesan ("aku suka kuliah ini")
>>> pesanB = Pesan ("surakarta : the spirit of java")
>>> pesanA.cetakini()
aku suka kuliah ini
>>> pesanA.cetakjumlahkarakter()
kalimatku mempunyai  19 karakter
>>> pesanB.cetakjumlahkarakter()
kalimatku mempunyai  30 karakter
>>> pesanA.cetakpakaihurufkapital()
AKU SUKA KULIAH INI
>>> pesanA.cetakpakaihurufkecil()
aku suka kuliah ini
>>> pesanA.perbaruhi("aku senang struktur data")
>>> pesanA.cetakini()
aku senang struktur data
>>> |
```
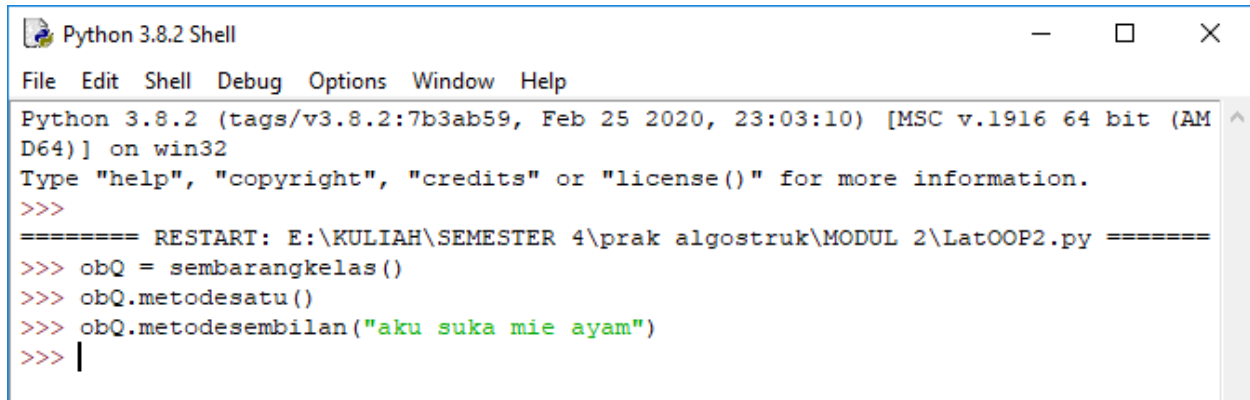
```python
    def __init__(self,sebuahstring):
        self.teks = sebuahstring
    def cetakini(self):
        print(self.teks)
    def cetakpakaihurufkapital(self):
        print(str.upper(self.teks))
    def cetakpakaihurufkecil(self):
        print(str.lower(self.teks))
    def jumkar(self):
        return len(self.teks)
    def cetakjumlahkarakter(self):
        print("kalimatku mempunyai ",len (self.teks),"karakter")
    def perbaruhi(self,stringbaru):
        self.teks = stringbaru

class sembarangkelas(object):
    def metodesatu(self):
        pass
    def metodesembilan(self,stringbaru):
        pass

class Manusia(object):
    """kelas '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()
```
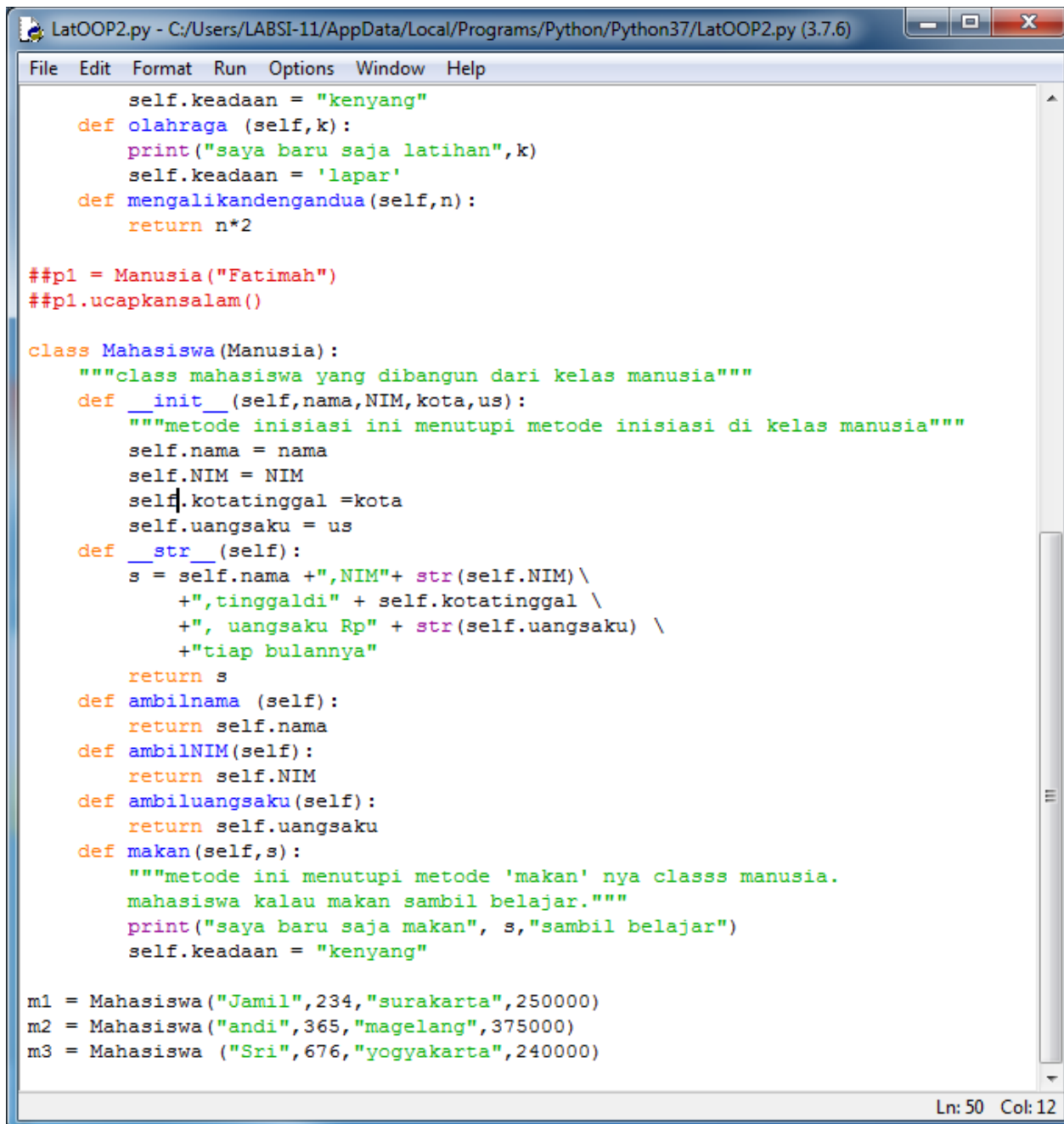
```
Python 3.8.2 Shell                                            —    □    ×

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Python 3.8.2 (tags/v3.8.2:7b3ab59, Feb 25 2020, 23:03:10) [MSC v.1916 64 bit (AM
D64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
======== RESTART: E:\KULIAH\SEMESTER 4\prak algostruk\MODUL 2\LatOOP2.py =======
>>> obQ = sembarangkelas()
>>> obQ.metodesatu()
>>> obQ.metodesembilan("aku suka mie ayam")
>>> |
```

```
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/LABSI-11/AppData/Local/Programs/Python/Python37/LatOOP2.py =
salam, namaku Fatimah
>>> p2 = Manusia("budi")
>>> p2.ucapkansalam()
salam, namaku budi
>>> ak = Manusia("abdul karim")
>>> ak.ucapkansalam()
salam, namaku abdul karim
>>> 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
>>>
```

2.2.1 pewarisan

```python
        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()

class Mahasiswa(Manusia):
    """class mahasiswa yang dibangun dari kelas manusia"""
    def __init__(self,nama,NIM,kota,us):
        """metode inisiasi ini menutupi metode inisiasi di kelas manusia"""
        self.nama = nama
        self.NIM = NIM
        self.kotatinggal =kota
        self.uangsaku = us
    def __str__(self):
        s = self.nama +",NIM"+ str(self.NIM)\
            +",tinggaldi" + self.kotatinggal \
            +", uangsaku 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 classs manusia.
        mahasiswa kalau makan sambil belajar."""
        print("saya baru saja makan", s,"sambil belajar")
        self.keadaan = "kenyang"

m1 = Mahasiswa("Jamil",234,"surakarta",250000)
m2 = Mahasiswa("andi",365,"magelang",375000)
m3 = Mahasiswa ("Sri",676,"yogyakarta",240000)
```

```
Python 3.8.2 Shell                                          —    □    ✕

File  Edit  Shell  Debug  Options  Window  Help

Python 3.8.2 (tags/v3.8.2:7b3ab59, Feb 25 2020, 23:03:10) [MSC v.1916 64 bit (AM
D64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
======== RESTART: E:\KULIAH\SEMESTER 4\prak algostruk\MODUL 2\LatOOP2.py =======
>>> m1.ambilnama()
'Jamil'
>>> m2.ambilNIM()
365
>>> m3.ucapkansalam()
salam, namaku Sri
>>> m3.keadaan
'lapar'
>>> m3.makan("gado-gado")
saya baru saja makan gado-gado sambil belajar
>>> m3.keadaan
'kenyang'
>>> print(m3)
Sri,NIM676,tinggaldiyogyakarta, uangsaku Rp240000tiap bulannya
>>> |
                                                            Ln: 19   Col: 4
```

Latihan 2.5

```python
class MhsTIF(Mahasiswa):
    """class MhsTIF yang dibangun dari class mahasiswa"""
    def katakanpy(self):
        print("python is cool")
```

```
Python 3.8.2 Shell

File  Edit  Shell  Debug  Options  Window  Help

Python 3.8.2 (tags/v3.8.2:7b3ab59, Feb 25 2020, 23:03:10) [MSC v.1916 64 bit (AM
D64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
======== RESTART: E:\KULIAH\SEMESTER 4\prak algostruk\MODUL 2\LatOOP2.py =======
>>> m4 = MhsTIF("Badu",334,"Sragen",230000)
>>> m4.katakanpy()
python is cool
>>> print(m4)
Badu,NIM334,tinggaldiSragen, uangsaku Rp230000tiap bulannya
>>> m4.keadaan
'lapar'
>>> m4.makan("pecel")
saya baru saja makan pecel sambil belajar
>>> m4.keadaan
'kenyang'
>>> m4.ucapkansalam()
salam, namaku Badu
>>>
                                                                   Ln: 18  Col: 4
```

2.4 class sebagai namespace


```
LatOOP7.py - E:/KULIAH/SEMESTER 4/prak algostruk/MODUL 2/LatOOP7.py (3.8.2)

File  Edit  Format  Run  Options  Window  Help

class Kelaskosongan(object):
    pass
##sekarang kita coba
k = Kelaskosongan()
k.x = 23
k.y = 47
print (k.x + k.y)
k.mystr = "Indonesia"
print(k.mystr)
```

```
Python 3.8.2 Shell                                          —    □    ×

File   Edit   Shell   Debug   Options   Window   Help

Python 3.8.2 (tags/v3.8.2:7b3ab59, Feb 25 2020, 23:03:10) [MSC v.1916 64 bit (AM
D64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
======== RESTART: E:\KULIAH\SEMESTER 4\prak algostruk\MODUL 2\LatOOP2.py =======
>>>
======== RESTART: E:/KULIAH/SEMESTER 4/prak algostruk/MODUL 2/LatOOP7.py =======
70
Indonesia
>>>
                                                                   Ln: 9  Col
```