

LAPORAN PRAKTIKUM

PEMROGRAMAN BERORIENTASI OBJEK LANJUT

2023



Prepared By:

Nama : Moh. Rifki Ramadhan

Kelas : Reguler 2

Nim : 21051120

Praktikum 4

1. Buatlah Composition yang terdiri dari Peneliti dan Jurnal
2. Buatlah Composition yang terdiri dari Mahasiswa dan Kelompok KKM
3. Buatlah Composition yang terdiri dari Penulis dan Buku

Peneliti & Jurnal :

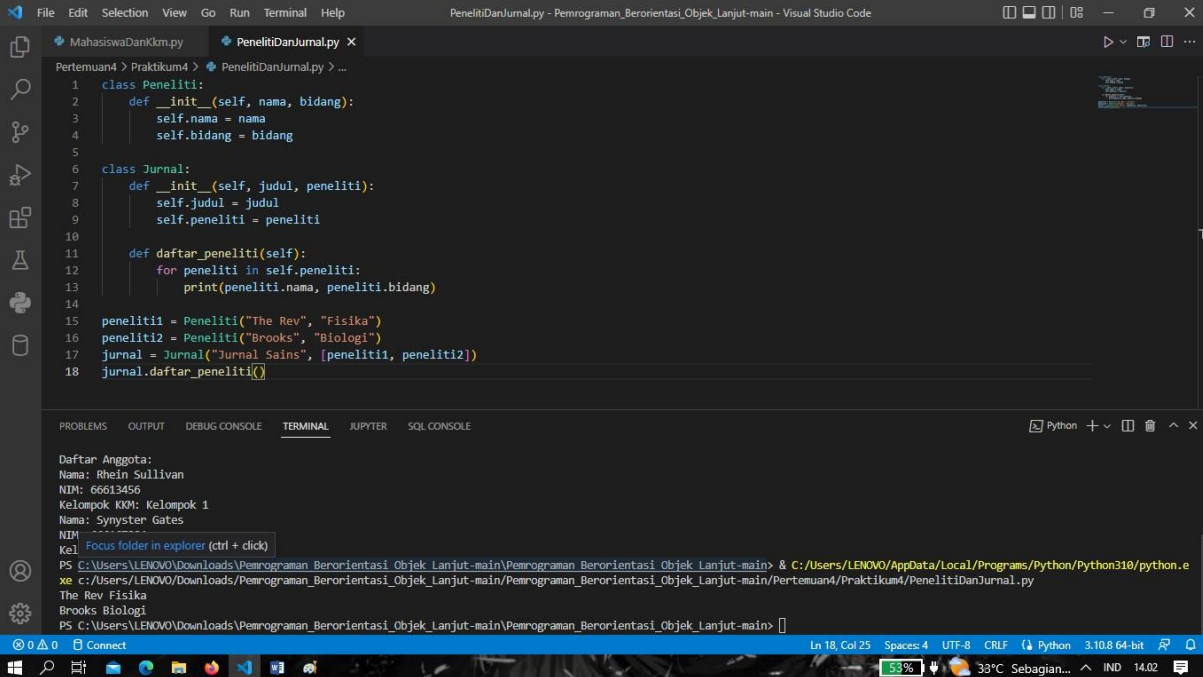
```
class Peneliti:
    def __init__(self, nama, bidang):
        self.nama = nama
        self.bidang = bidang

class Jurnal:
    def __init__(self, judul, peneliti):
        self.judul = judul
        self.peneliti = peneliti

    def daftar_peneliti(self):
        for peneliti in self.peneliti:
            print(peneliti.nama, peneliti.bidang)

peneliti1 = Peneliti("The Rev", "Fisika")
peneliti2 = Peneliti("Brooks", "Biologi")
jurnal = Jurnal("Jurnal Sains", [peneliti1, peneliti2])
jurnal.daftar_peneliti()
```

Hasil Output



The screenshot displays the Visual Studio Code interface. The editor window shows a Python file named `PenelitiDanJurnal.py` with the following code:

```
1 class Peneliti:
2     def __init__(self, nama, bidang):
3         self.nama = nama
4         self.bidang = bidang
5
6 class Jurnal:
7     def __init__(self, judul, peneliti):
8         self.judul = judul
9         self.peneliti = peneliti
10
11     def daftar_peneliti(self):
12         for peneliti in self.peneliti:
13             print(peneliti.nama, peneliti.bidang)
14
15 peneliti1 = Peneliti("The Rev", "Fisika")
16 peneliti2 = Peneliti("Brooks", "Biologi")
17 jurnal = Jurnal("Jurnal Sains", [peneliti1, peneliti2])
18 jurnal.daftar_peneliti()
```

The terminal window at the bottom shows the output of the script:

```
Daftar Anggota:
Nama: Rhein Sullivan
NIM: 66613456
Kelompok KIM: Kelompok 1
Nama: Synyster Gates
NIM:
PS C:\Users\LENOVO\Downloads\Pemrograman_Berorientasi_Objek_Lanjut-main\Pemrograman_Berorientasi_Objek_Lanjut-main> & C:/Users/LENOVO/AppData/Local/Programs/Python/Python310/python.exe
xc c:/Users/LENOVO/Downloads/Pemrograman_Berorientasi_Objek_Lanjut-main/Pemrograman_Berorientasi_Objek_Lanjut-main/Pertemuan4/Praktikum4/PenelitiDanJurnal.py
The Rev Fisika
Brooks Biologi
PS C:\Users\LENOVO\Downloads\Pemrograman_Berorientasi_Objek_Lanjut-main\Pemrograman_Berorientasi_Objek_Lanjut-main>
```

The status bar at the bottom indicates the current position is Line 18, Column 25, with 4 spaces, UTF-8 encoding, CRLF line endings, and Python 3.10.8 64-bit.

Mahasiswa dan KKM

```
class Mahasiswa:
    def __init__(self, nama, nim, kelompok_kkm):
        self.nama = nama
        self.nim = nim
        self.kelompok_kkm = kelompok_kkm

    def display_info(self):
        print(f>Nama: {self.nama}")
        print(f"NIM: {self.nim}")
        print(f>Kelompok KKM:
{self.kelompok_kkm.get_nama()}")

class KelompokKKM:
    def __init__(self, nama, tahun_ajaran):
        self.nama = nama
        self.tahun_ajaran = tahun_ajaran
        self.mahasiswa_list = []

    def tambah_mahasiswa(self, mahasiswa):
        self.mahasiswa_list.append(mahasiswa)

    def get_nama(self):
        return self.nama

    def display_info(self):
        print(f>Nama Kelompok: {self.nama}")
        print(f>Tahun Ajaran: {self.tahun_ajaran}")
        print("Daftar Anggota:")
        for mahasiswa in self.mahasiswa_list:
            mahasiswa.display_info()

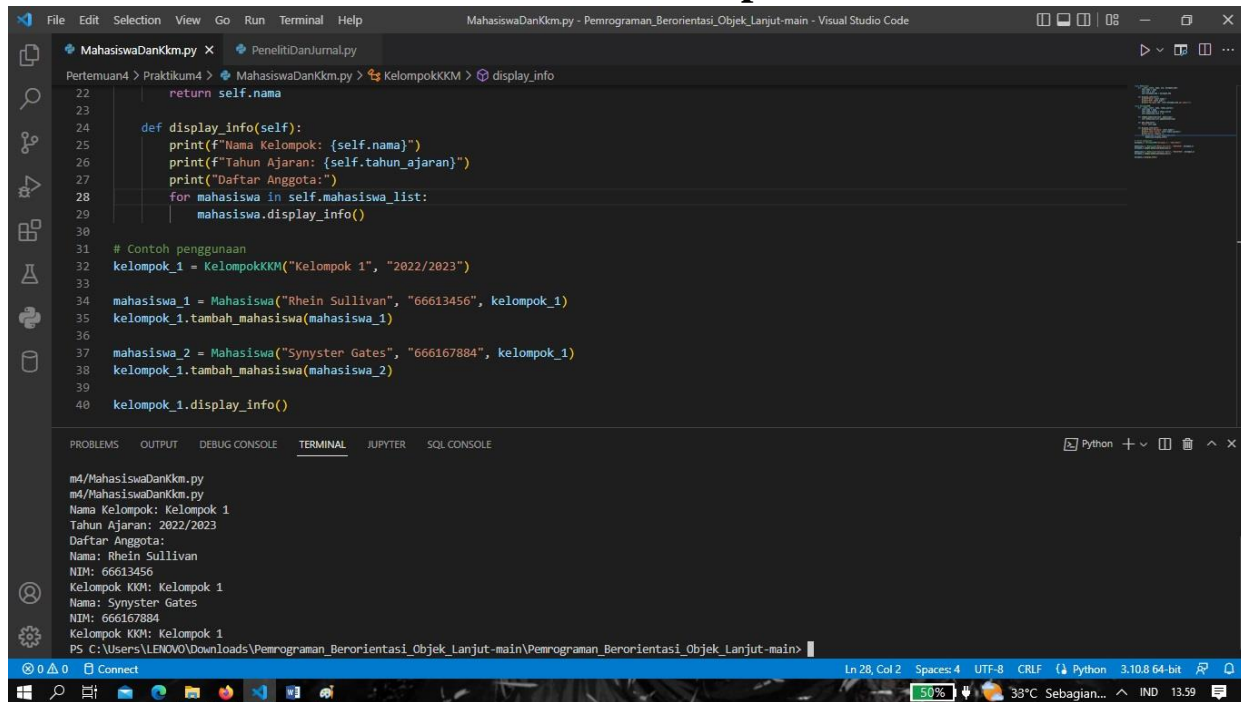
# Contoh penggunaan
kelompok_1 = KelompokKKM("Kelompok 1", "2022/2023")

mahasiswa_1 = Mahasiswa("Rhein Sullivan", "66613456",
kelompok_1)
kelompok_1.tambah_mahasiswa(mahasiswa_1)

mahasiswa_2 = Mahasiswa("Synyster Gates", "666167884",
kelompok_1)
kelompok_1.tambah_mahasiswa(mahasiswa_2)

kelompok_1.display_info()
```

Hasil Output



The image shows a screenshot of the Visual Studio Code editor. The main editor window displays a Python file named `MahasiswaDankKm.py`. The code defines a `KelompokKKM` class with a `display_info` method. The method prints the group name, year, and a list of students. The code also creates a `kelompok_1` instance and adds two students to it.

```
22         return self.nama
23
24     def display_info(self):
25         print(f>Nama Kelompok: {self.nama}")
26         print(f>Tahun Ajaran: {self.tahun_ajaran}")
27         print("Daftar Anggota:")
28         for mahasiswa in self.mahasiswa_list:
29             mahasiswa.display_info()
30
31 # Contoh penggunaan
32 kelompok_1 = KelompokKKM("Kelompok 1", "2022/2023")
33
34 mahasiswa_1 = Mahasiswa("Rhein Sullivan", "66613456", kelompok_1)
35 kelompok_1.tambah_mahasiswa(mahasiswa_1)
36
37 mahasiswa_2 = Mahasiswa("Synyster Gates", "666167884", kelompok_1)
38 kelompok_1.tambah_mahasiswa(mahasiswa_2)
39
40 kelompok_1.display_info()
```

The bottom panel shows the `TERMINAL` output, which displays the results of the script execution:

```
m4/MahasiswaDankKm.py
m4/MahasiswaDankKm.py
Nama Kelompok: Kelompok 1
Tahun Ajaran: 2022/2023
Daftar Anggota:
Nama: Rhein Sullivan
NIM: 66613456
Kelompok KKM: Kelompok 1
Nama: Synyster Gates
NIM: 666167884
Kelompok KKM: Kelompok 1
PS C:\Users\LENOVO\Downloads\Pemrograman_Berorientasi_Objek_Lanjut-main\Pemrograman_Berorientasi_Objek_Lanjut-main>
```

The status bar at the bottom indicates the current line is 28, column 2, with 4 spaces, UTF-8 encoding, CRLF line endings, and Python 3.10.8 64-bit.

Penulis & Buku :

```
class Penulis:
    def __init__(self, nama_penulis):
        self.nama_penulis = nama_penulis
        self.karyas = []

    def tambah_karya(self, judul, tahun_terbit):
        karya = Buku(judul, tahun_terbit)
        self.karyas.append(karya)

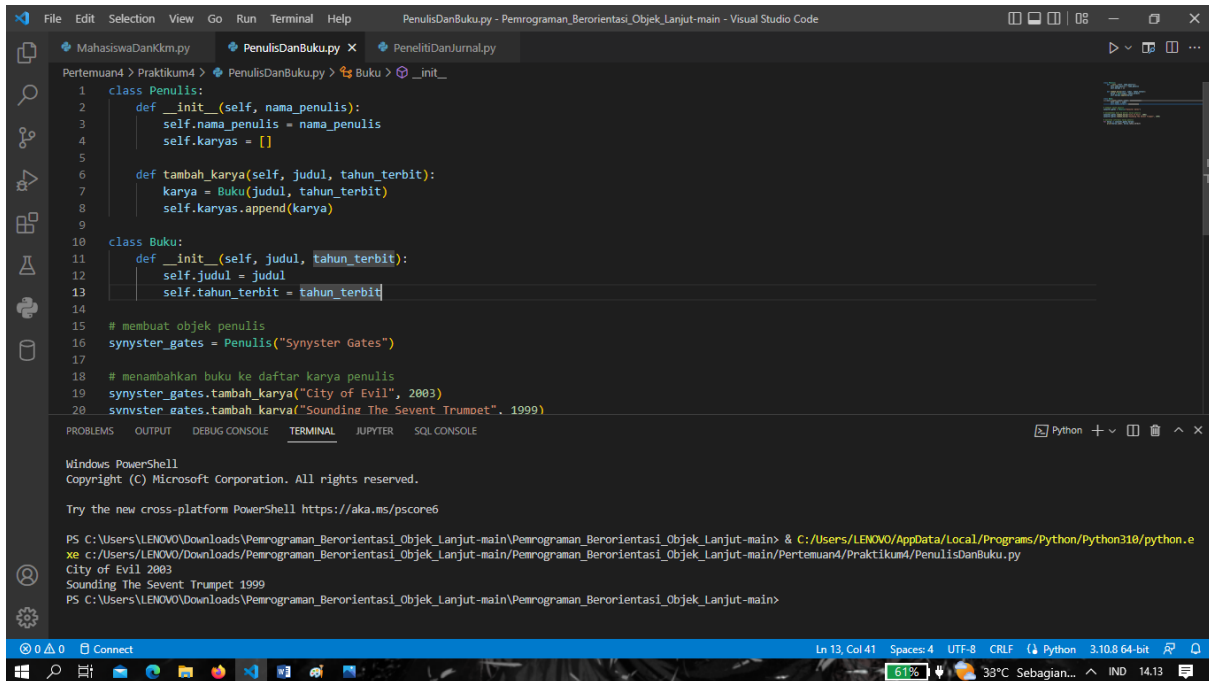
class Buku:
    def __init__(self, judul, tahun_terbit):
        self.judul = judul
        self.tahun_terbit = tahun_terbit

# membuat objek penulis
synyster_gates = Penulis("Synyster Gates")

# menambahkan buku ke daftar karya penulis
synyster_gates.tambah_karya("City of Evil", 2003)
synyster_gates.tambah_karya("Sounding The Sevent Trumpet",
1999)

# mencetak informasi karya penulis
for karya in synyster_gates.karyas:
    print(karya.judul, karya.tahun_terbit)
```

Hasil Output



The screenshot displays the Visual Studio Code interface with a Python file named `PenulisDanBuku.py` open. The code defines two classes, `Penulis` and `Buku`, and creates an instance of `Penulis` named `synyster_gates`. The `Penulis` class has an `__init__` method that initializes `nama_penulis` and `karyas` (a list), and a `tambah_karya` method that appends a new book to the list. The `Buku` class has an `__init__` method that initializes `judul` and `tahun_terbit`. The script then creates the `synyster_gates` object and adds two books to its `karyas` list: "City of Evil" (2003) and "Sounding The Sevent Trumpet" (1999).

```
1 class Penulis:
2     def __init__(self, nama_penulis):
3         self.nama_penulis = nama_penulis
4         self.karyas = []
5
6     def tambah_karya(self, judul, tahun_terbit):
7         karya = Buku(judul, tahun_terbit)
8         self.karyas.append(karya)
9
10 class Buku:
11     def __init__(self, judul, tahun_terbit):
12         self.judul = judul
13         self.tahun_terbit = tahun_terbit
14
15 # membuat objek penulis
16 synyster_gates = Penulis("Synyster Gates")
17
18 # menambahkan buku ke daftar karya penulis
19 synyster_gates.tambah_karya("City of Evil", 2003)
20 synyster_gates.tambah_karya("Sounding The Sevent Trumpet", 1999)
```

The terminal window shows the output of the script execution, displaying the details of the books added to the `synyster_gates` object's `karyas` list.

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

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

PS C:\Users\LENOVO\Downloads\Pemrograman_Berorientasi_Objek_Lanjut-main\Pemrograman_Berorientasi_Objek_Lanjut-main> & C:/Users/LENOVO/AppData/Local/Programs/Python/Python310/python.exe
xe c:/Users/LENOVO/Downloads/Pemrograman_Berorientasi_Objek_Lanjut-main/Pemrograman_Berorientasi_Objek_Lanjut-main/Pertemuan4/Praktikum4/PenulisDanBuku.py
City of Evil 2003
Sounding The Sevent Trumpet 1999
PS C:\Users\LENOVO\Downloads\Pemrograman_Berorientasi_Objek_Lanjut-main\Pemrograman_Berorientasi_Objek_Lanjut-main>
```

The status bar at the bottom indicates the current file is at line 13, column 41, with 4 spaces, UTF-8 encoding, CRLF line endings, and is a Python 3.10.8 64-bit file.