LAPORAN PRAKTIKUM

PEMROGRAMAN BERORIENTASI OBJEK LANJUT

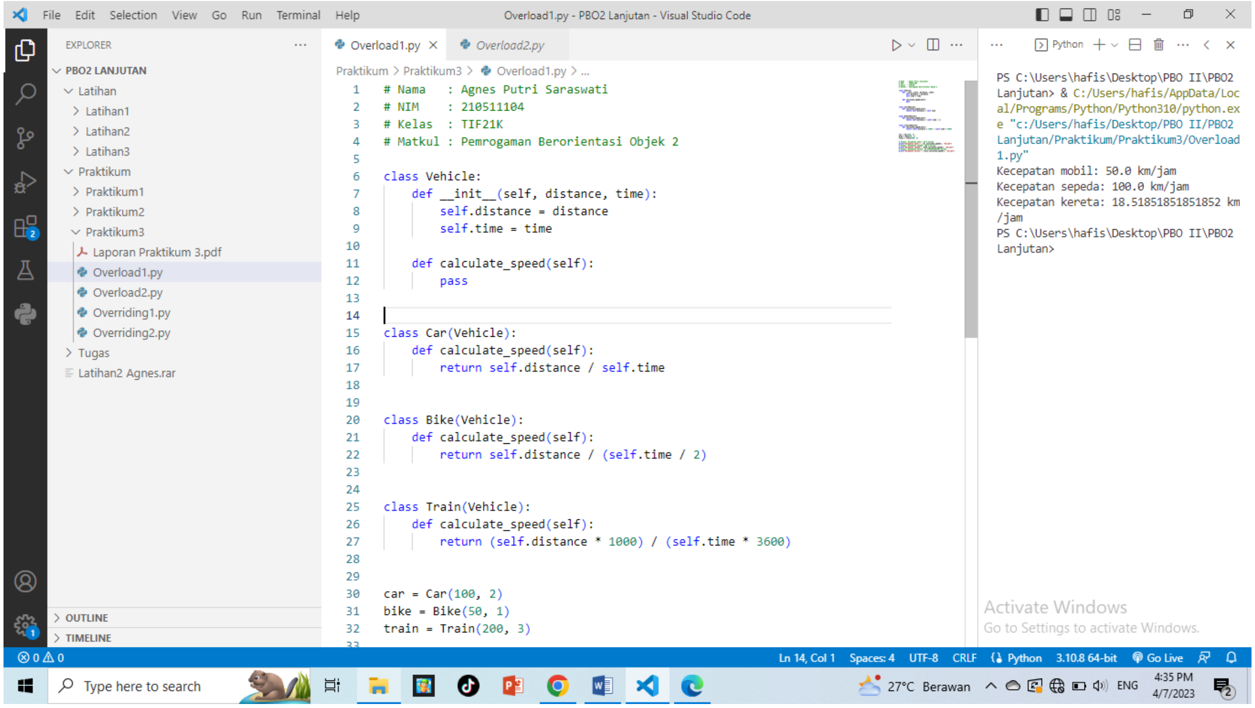
2023

Prepared By:

Buatlah masing-masing 2 contoh polymorphism statis (overload) dan polymorphism dinamis (overriding).

1. Overload1.py

```
# Nama   : Agnes Putri Saraswati
# NIM    : 210511104
# Kelas  : TIF21K
# Matkul : Pemrogaman Berorientasi Objek 2

class Vehicle:
    def __init__(self, distance, time):
        self.distance = distance
        self.time = time

    def calculate_speed(self):
        pass


class Car(Vehicle):
    def calculate_speed(self):
        return self.distance / self.time


class Bike(Vehicle):
    def calculate_speed(self):
        return self.distance / (self.time / 2)


class Train(Vehicle):
    def calculate_speed(self):
        return (self.distance * 1000) / (self.time * 3600)


car = Car(100, 2)
bike = Bike(50, 1)
train = Train(200, 3)

# Output: Kecepatan mobil: 50.0 km/jam
print("Kecepatan mobil:", car.calculate_speed(), "km/jam")
# Output: Kecepatan sepeda: 100.0 km/jam
print("Kecepatan sepeda:", bike.calculate_speed(), "km/jam")
# Output: Kecepatan kereta: 18.51851851851852 km/jam
print("Kecepatan kereta:", train.calculate_speed(), "km/jam")
```



```python
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        return self.distance / self.time


class Bike(Vehicle):
    def calculate_speed(self):
        return self.distance / (self.time / 2)


class Train(Vehicle):
    def calculate_speed(self):
        return (self.distance * 1000) / (self.time * 3600)


car = Car(100, 2)
bike = Bike(50, 1)
train = Train(200, 3)
```
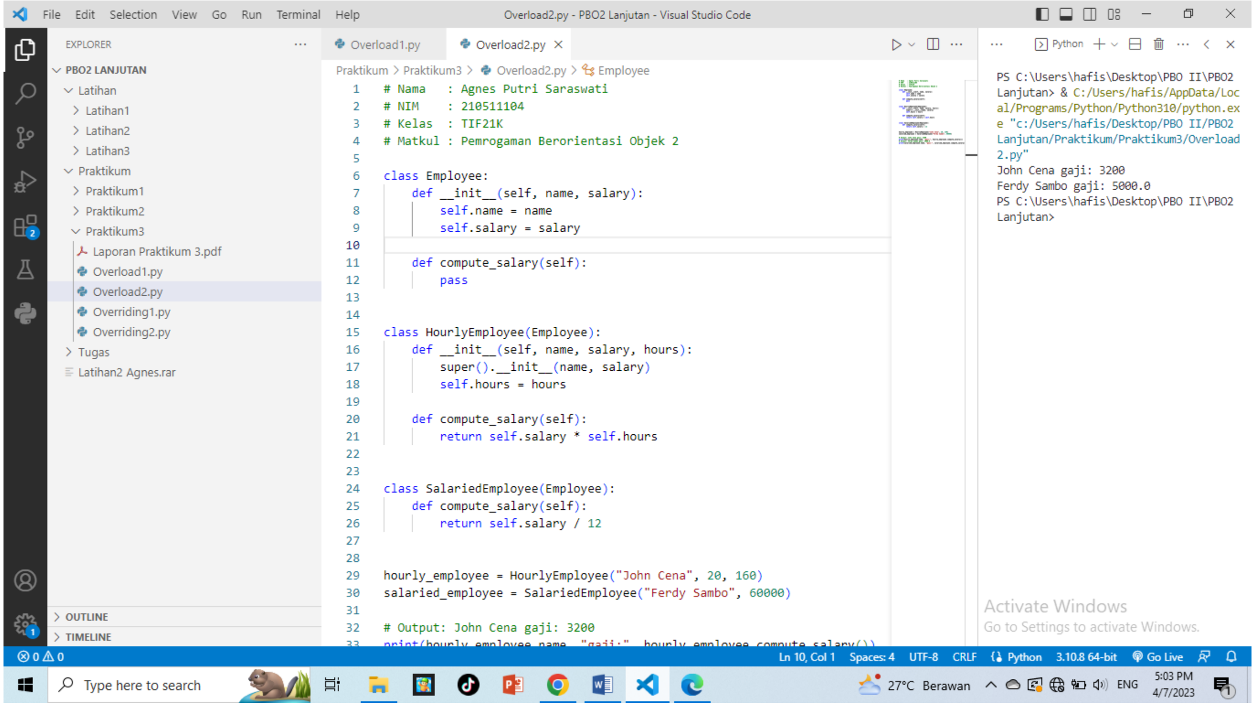

```
PS C:\Users\hafis\Desktop\PBO II\PBO2
Lanjutan> & C:/Users/hafis/AppData/Loc
al/Programs/Python/Python310/python.ex
e "c:/Users/hafis/Desktop/PBO II/PBO2
Lanjutan/Praktikum/Praktikum3/Overload
1.py"
Kecepatan mobil: 50.0 km/jam
Kecepatan sepeda: 100.0 km/jam
Kecepatan kereta: 18.51851851851852 km
/jam
PS C:\Users\hafis\Desktop\PBO II\PBO2
Lanjutan>
```

2. Overload2.py

```python
# Nama   : Agnes Putri Saraswati
# NIM    : 210511104
# Kelas  : TIF21K
# Matkul : Pemrogaman Berorientasi Objek 2

class Employee:
    def __init__(self, name, salary):
        self.name = name
        self.salary = salary

    def compute_salary(self):
        pass


class HourlyEmployee(Employee):
    def __init__(self, name, salary, hours):
        super().__init__(name, salary)
        self.hours = hours
    def compute_salary(self):
        return self.salary * self.hours


class SalariedEmployee(Employee):
    def compute_salary(self):
        return self.salary / 12


hourly_employee = HourlyEmployee("John Cena", 20, 160)
salaried_employee = SalariedEmployee("Ferdy Sambo", 60000)

# Output: John Cena gaji: 3200
print(hourly_employee.name, "gaji:", hourly_employee.compute_salary())
# Output: Ferdy Sambo gaji: 5000.0
print(salaried_employee.name, "gaji:", salaried_employee.compute_salary())
```



```python
# Nama   : Agnes Putri Saraswati
# NIM    : 210511104
# Kelas  : TIF21K
# Matkul : Pemrogaman Berorientasi Objek 2

class Employee:
    def __init__(self, name, salary):
        self.name = name
        self.salary = salary

    def compute_salary(self):
        pass


class HourlyEmployee(Employee):
    def __init__(self, name, salary, hours):
        super().__init__(name, salary)
        self.hours = hours

    def compute_salary(self):
        return self.salary * self.hours


class SalariedEmployee(Employee):
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# Output: John Cena gaji: 3200
print(hourly_employee.name, "gaji:", hourly_employee.compute_salary())
```

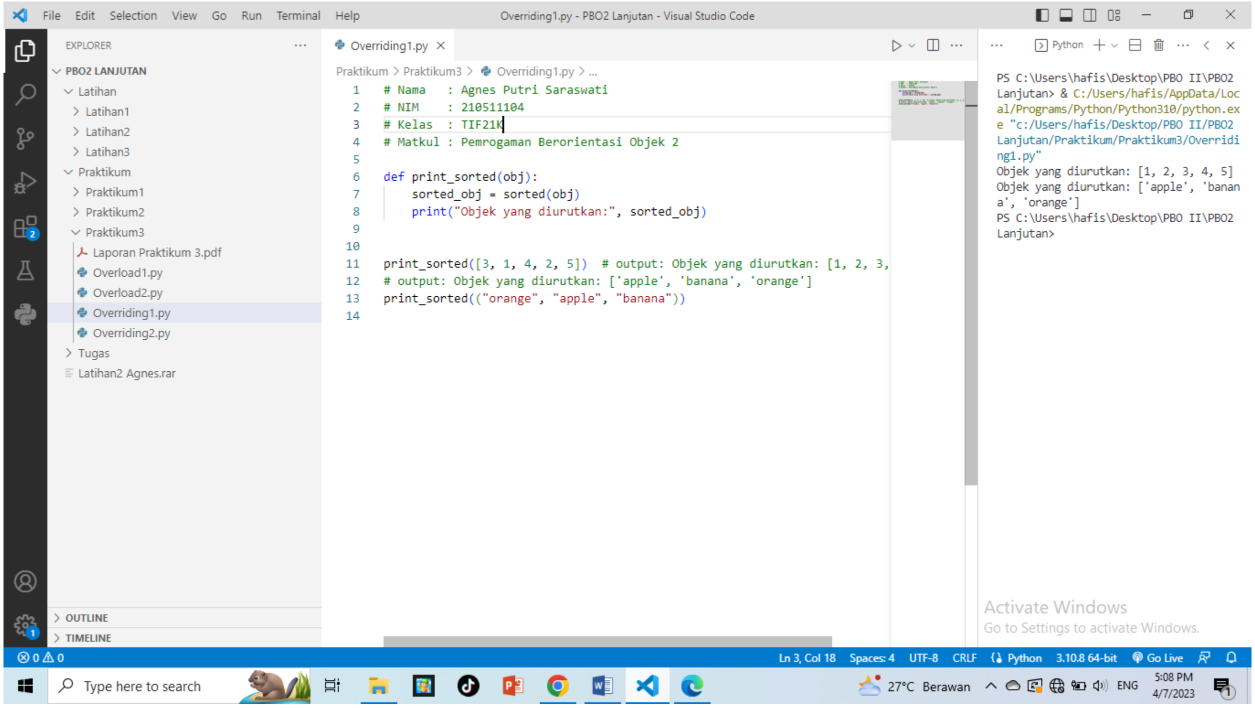
```
PS C:\Users\hafis\Desktop\PBO II\PBO2
Lanjutan> & C:/Users/hafis/AppData/Loc
al/Programs/Python/Python310/python.ex
e "c:/Users/hafis/Desktop/PBO II/PBO2
Lanjutan/Praktikum/Praktikum3/Overload
2.py"
John Cena gaji: 3200
Ferdy Sambo gaji: 5000.0
PS C:\Users\hafis\Desktop\PBO II\PBO2
Lanjutan>
```

3. Overriding1.py

```python
# Nama   : Agnes Putri Saraswati
# NIM    : 210511104
# Kelas  : TIF21K
# Matkul : Pemrogaman Berorientasi Objek 2

def print_sorted(obj):
    sorted_obj = sorted(obj)
    print("Objek yang diurutkan:", sorted_obj)


print_sorted([3, 1, 4, 2, 5])  # output: Objek yang diurutkan: [1, 2, 3, 4, 5]
# output: Objek yang diurutkan: ['apple', 'banana', 'orange']
print_sorted(("orange", "apple", "banana"))
```


File Edit Selection View Go Run Terminal Help
Overriding1.py - PBO2 Lanjutan - Visual Studio Code
EXPLORER
PBO2 LANJUTAN
Latihan
Latihan1
Latihan2
Latihan3
Praktikum
Praktikum1
Praktikum2
Praktikum3
Laporan Praktikum 3.pdf
Overload1.py
Overload2.py
Overriding1.py
Overriding2.py
Tugas
Latihan2 Agnes.rar
OUTLINE
TIMELINE
Overriding1.py
Praktikum > Praktikum3 > Overriding1.py > ...
Python
Activate Windows
Go to Settings to activate Windows.
Ln 3, Col 18 Spaces: 4 UTF-8 CRLF Python 3.10.8 64-bit Go Live
Type here to search
27°C Berawan ENG 5:08 PM 4/7/2023

```python
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def print_sorted(obj):
    sorted_obj = sorted(obj)
    print("Objek yang diurutkan:", sorted_obj)


print_sorted([3, 1, 4, 2, 5])  # output: Objek yang diurutkan: [1, 2, 3,
# output: Objek yang diurutkan: ['apple', 'banana', 'orange']
print_sorted(("orange", "apple", "banana"))
```
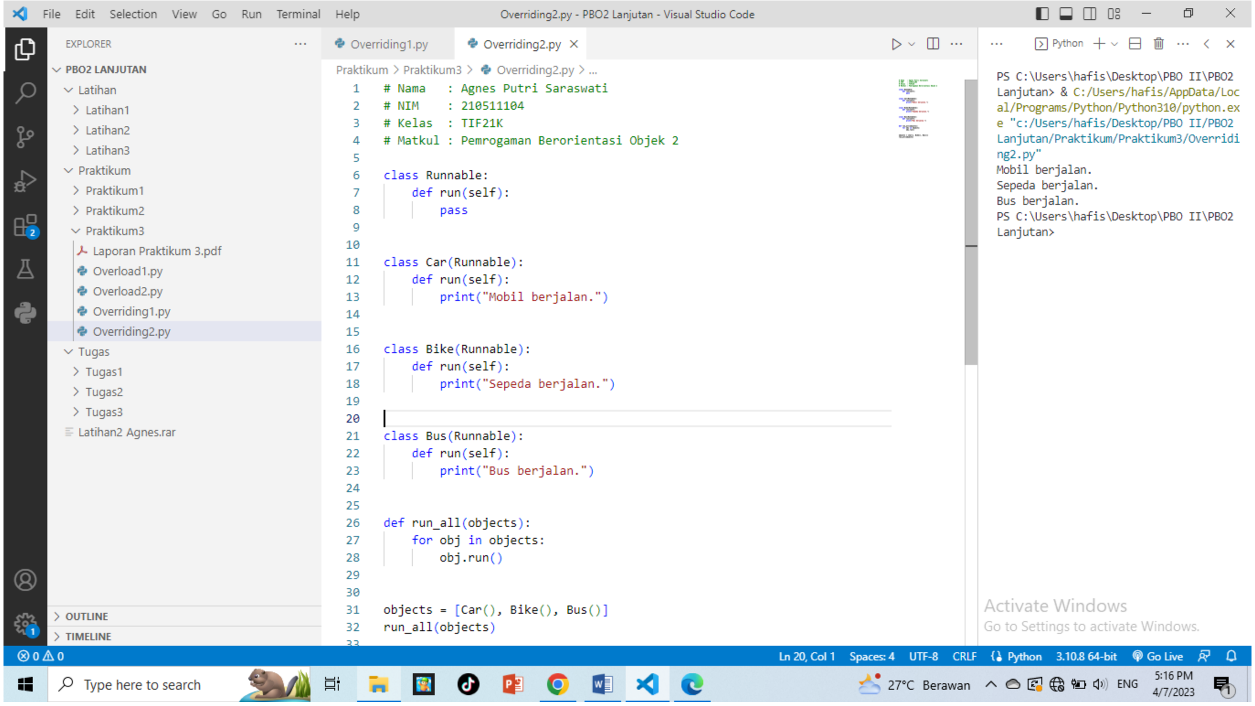

```
PS C:\Users\hafis\Desktop\PBO II\PBO2
Lanjutan> & C:/Users/hafis/AppData/Loc
al/Programs/Python/Python310/python.ex
e "c:/Users/hafis/Desktop/PBO II/PBO2
Lanjutan/Praktikum/Praktikum3/Overridi
ng1.py"
Objek yang diurutkan: [1, 2, 3, 4, 5]
Objek yang diurutkan: ['apple', 'banan
a', 'orange']
PS C:\Users\hafis\Desktop\PBO II\PBO2
Lanjutan>
```

4. Overriding2.py

```python
# Nama   : Agnes Putri Saraswati
# NIM    : 210511104
# Kelas  : TIF21K
# Matkul : Pemrogaman Berorientasi Objek 2
```

```python
class Runnable:
    def run(self):
        pass


class Car(Runnable):
    def run(self):
        print("Mobil berjalan.")


class Bike(Runnable):
    def run(self):
        print("Sepeda berjalan.")


class Bus(Runnable):
    def run(self):
        print("Bus berjalan.")


def run_all(objects):
    for obj in objects:
        obj.run()


objects = [Car(), Bike(), Bus()]
run_all(objects)
```



```python
# Nama   : Agnes Putri Saraswati
# NIM    : 210511104
# Kelas  : TIF21K
# Matkul : Pemrogaman Berorientasi Objek 2

class Runnable:
    def run(self):
        pass


class Car(Runnable):
    def run(self):
        print("Mobil berjalan.")


class Bike(Runnable):
    def run(self):
        print("Sepeda berjalan.")


class Bus(Runnable):
    def run(self):
        print("Bus berjalan.")


def run_all(objects):
    for obj in objects:
        obj.run()


objects = [Car(), Bike(), Bus()]
run_all(objects)
```

```
PS C:\Users\hafis\Desktop\PBO II\PBO2
Lanjutan> & C:/Users/hafis/AppData/Loc
al/Programs/Python/Python310/python.ex
e "c:/Users/hafis/Desktop/PBO II/PBO2
Lanjutan/Praktikum/Praktikum3/Overridi
ng2.py"
Mobil berjalan.
Sepeda berjalan.
Bus berjalan.
PS C:\Users\hafis\Desktop\PBO II\PBO2
Lanjutan>
```