LAPORAN PRAKTIKUM

PEMROGRAMAN BERORIENTASI OBJEK LANJUT

2023

Prepared By:

Linda Novita Juliyanti

210510003

D3

Praktikum :

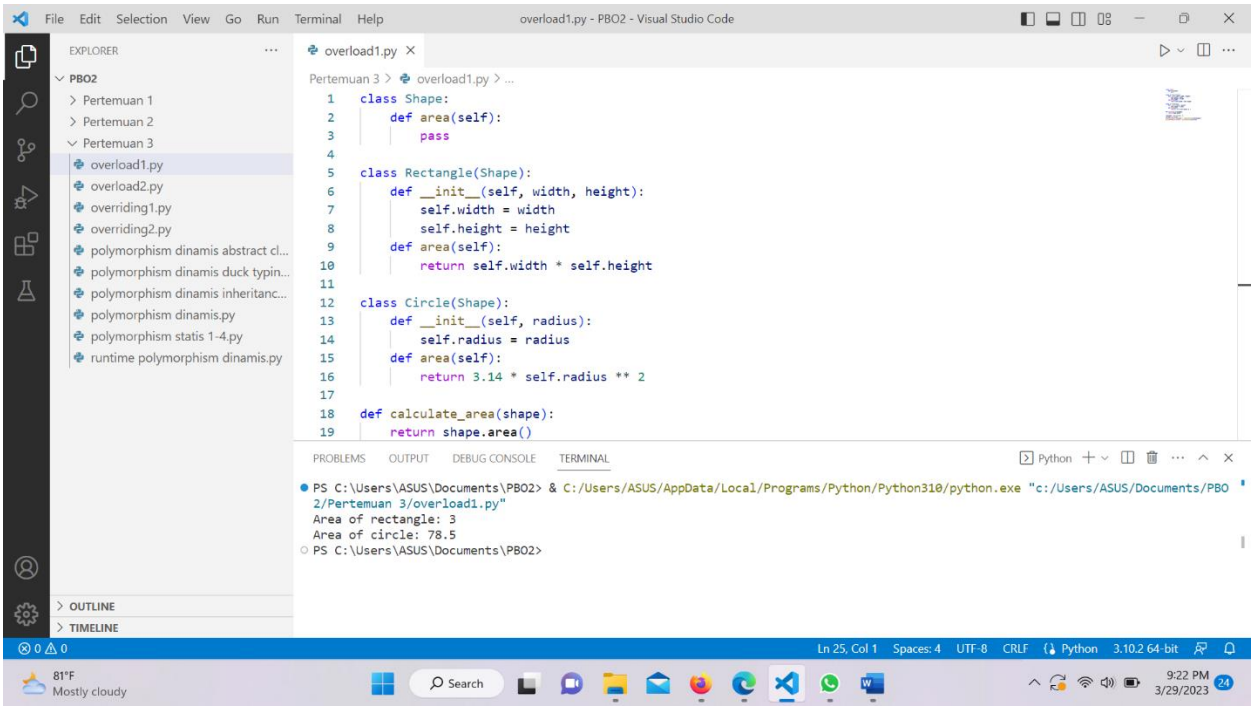
Buatlah masing-masing 2 contoh polymorphism statis (overload) dan polymorphism dinamis (overriding). Beri nama overload1.py, overload2, overriding1.py, overriding2.py

Jawaban Praktikum :

1. Script overload1.py dan overload2.py

Overload1.py

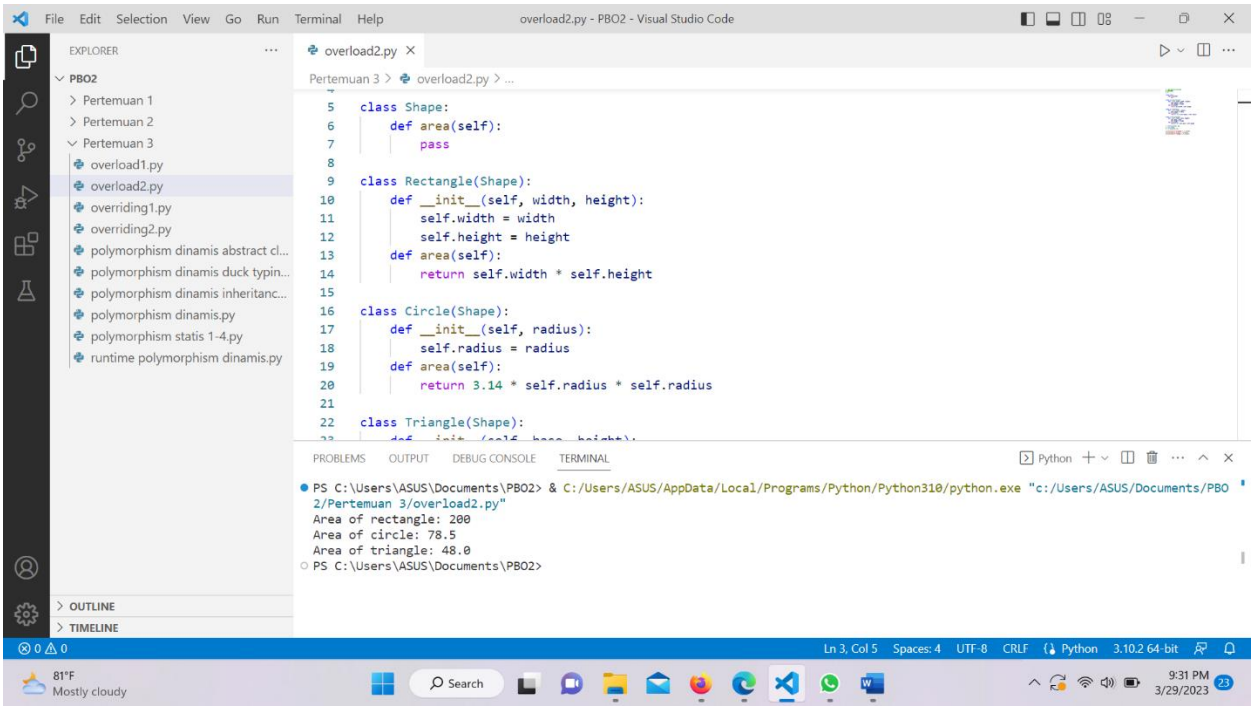
```
# LINDA NOVITA JULIYANTI
# 210510003
# D3

class Shape:
    def area(self):
        pass

class Rectangle(Shape):
    def __init__(self, width, height):
        self.width = width
        self.height = height
    def area(self):
        return self.width * self.height

class Circle(Shape):
    def __init__(self, radius):
        self.radius = radius
    def area(self):
        return 3.14 * self.radius ** 2

def calculate_area(shape):
    return shape.area()

rectangle = Rectangle(1, 3)
circle = Circle(5)
print("Area of rectangle:", calculate_area(rectangle))
print("Area of circle:", calculate_area(circle))


# output
Area of rectangle: 3
Area of circle: 78.5
```



Overload2.py

```python
# LINDA NOVITA JULIYANTI
# 210510003
# D3

class Shape:
    def area(self):
        pass

class Rectangle(Shape):
    def __init__(self, width, height):
        self.width = width
        self.height = height
    def area(self):
        return self.width * self.height

class Circle(Shape):
    def __init__(self, radius):
        self.radius = radius
    def area(self):
        return 3.14 * self.radius * self.radius
```

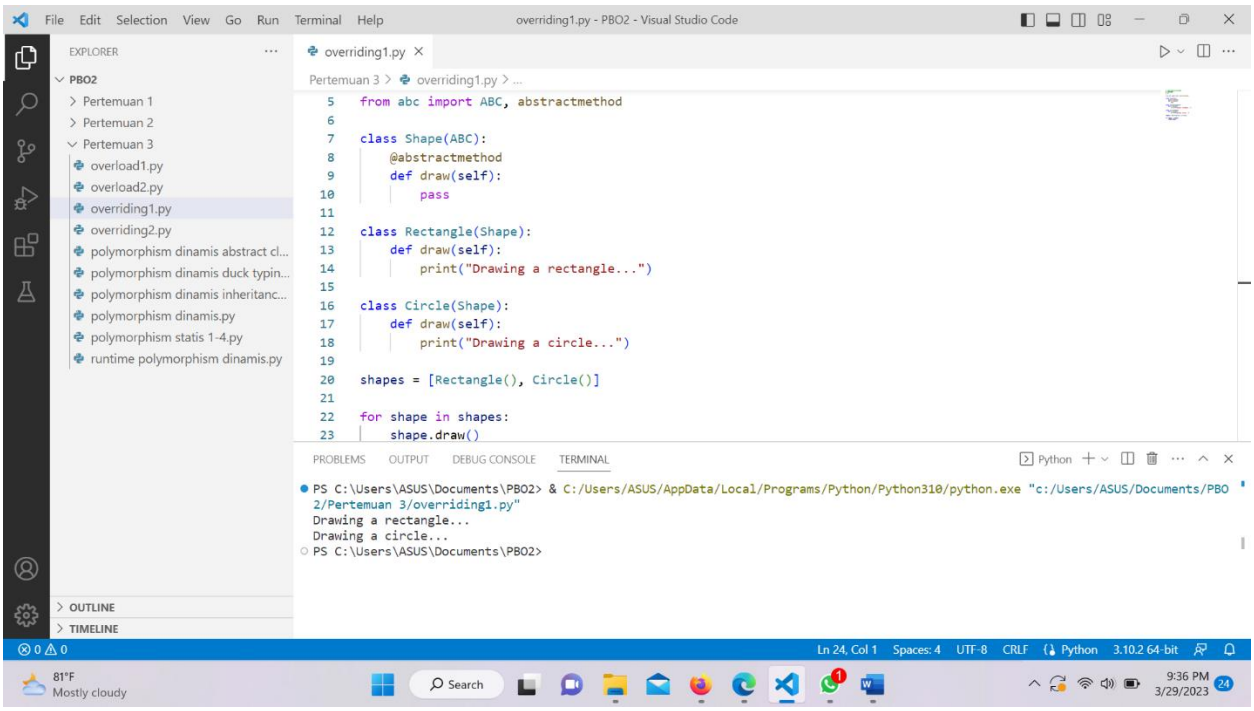
```python
class Triangle(Shape):
    def __init__(self, base, height):
        self.base = base
        self.height = height
    def area(self):
        return 0.5 * self.base * self.height

r = Rectangle(10, 20)
c = Circle(5)
t = Triangle(8, 12)

print("Area of rectangle:", r.area())
print("Area of circle:", c.area())
print("Area of triangle:", t.area())


# output
Area of rectangle: 200
Area of circle: 78.5
Area of triangle: 48.0
```



2. Script overriding1.py dan overriding2.py

Overriding1.py

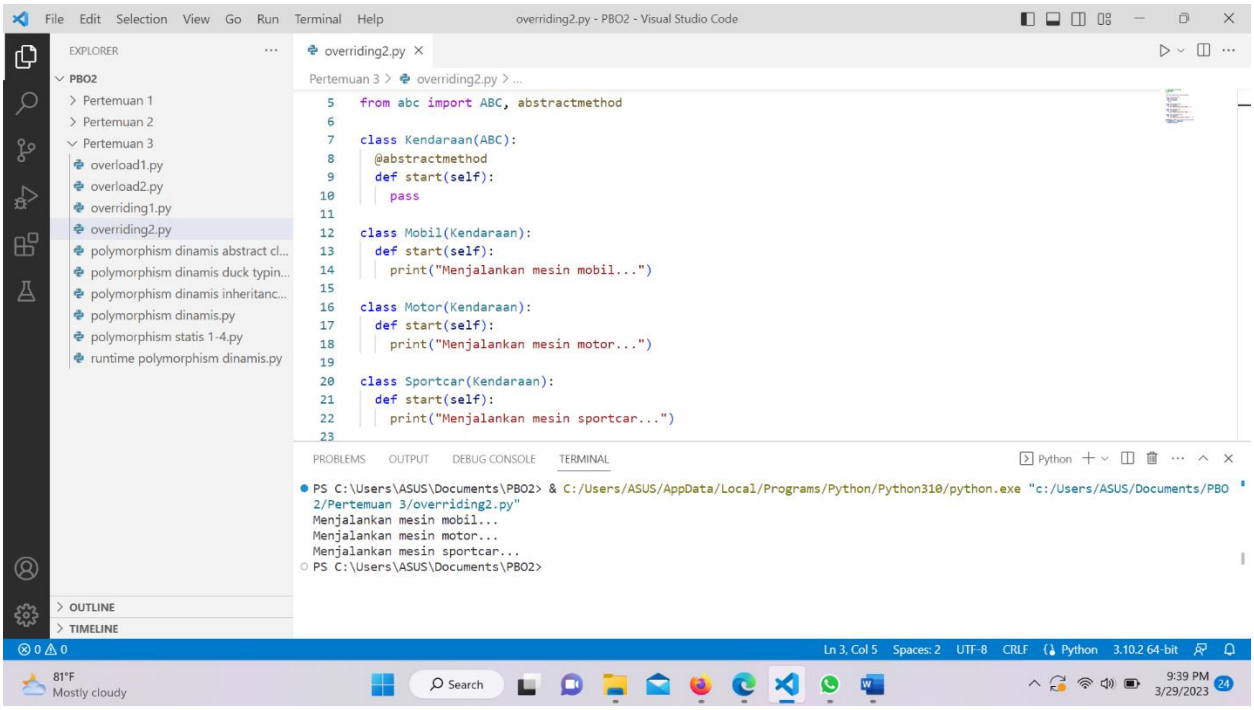
```python
# LINDA NOVITA JULIYANTI
# 210510003
# D3

from abc import ABC, abstractmethod

class Shape(ABC):
    @abstractmethod
    def draw(self):
        pass

class Rectangle(Shape):
    def draw(self):
        print("Drawing a rectangle...")

class Circle(Shape):
    def draw(self):
        print("Drawing a circle...")

shapes = [Rectangle(), Circle()]

for shape in shapes:
    shape.draw()


# output
Drawing a rectangle...
Drawing a circle...
```



Overriding2.py

```python
# LINDA NOVITA JULIYANTI
# 210510003
# D3

from abc import ABC, abstractmethod

class Kendaraan(ABC):
  @abstractmethod
  def start(self):
    pass

class Mobil(Kendaraan):
  def start(self):
    print("Menjalankan mesin mobil...")

class Motor(Kendaraan):
  def start(self):
    print("Menjalankan mesin motor...")

class Sportcar(Kendaraan):
  def start(self):
    print("Menjalankan mesin sportcar...")
```

```
kendaraan = [Mobil(), Motor(), Sportcar()]
for kendaraan in kendaraan:
  kendaraan.start()


# output
Menjalankan mesin mobil...
Menjalankan mesin motor...
Menjalankan mesin sportcar...
```



Soal Tugas :

Buatlah sebuah aplikasi sederhana untuk memperdengarkan suara 10 hewan yang berbeda.

Format suara bisa .wav atau mp3

Jawaban Tugas :

https://github.com/lindanovitaj/pemrograman_berorientasi_objek2/tree/main/tugas3