

Object Oriented Programming

1. Easy Challenge (Menghitung Luas dan Keliling)

```
class Persegi:
```

```
    def __init__(self, sisi):  
        self.sisi = sisi
```

```
    def luas(self):  
        return self.sisi * self.sisi
```

```
    def keliling(self):  
        return 4 * self.sisi
```

```
class Segitiga:
```

```
    def __init__(self, alas, tinggi):  
        self.alas = alas  
        self.tinggi = tinggi
```

```
    def luas(self):  
        return 0.5 * self.alas * self.tinggi
```

```
    def keliling(self):  
        sisi_miring = (self.alas**2 + self.tinggi**2) ** 0.5  
        return self.alas + self.tinggi + sisi_miring
```

```
class PersegiPanjang:
```

```
    def __init__(self, panjang, lebar):  
        self.panjang = panjang  
        self.lebar = lebar
```

```
    def luas(self):  
        return self.panjang * self.lebar
```

```
    def keliling(self):  
        return 2 * (self.panjang + self.lebar)
```

```
def main():
```

```
    print("Luas:")  
    persegi = Persegi(4)  
    print(f"Persegi : {persegi.luas()}")
```

```
    segitiga = Segitiga(3, 4)  
    print(f"Segitiga : {segitiga.luas()}")
```

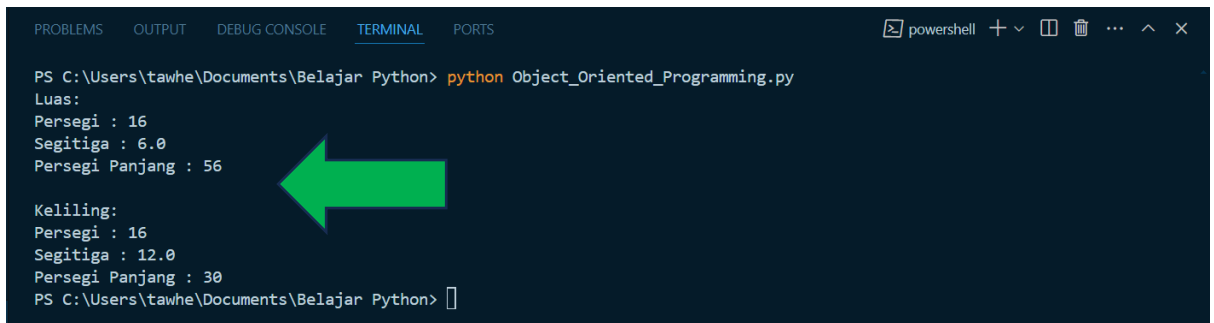
```

persegi_panjang = PersegiPanjang(7, 8)
print(f'Persegi Panjang : {persegi_panjang.luas()}')

print("\nKeliling:")
print(f'Persegi : {persegi.keliling()}')
print(f'Segitiga : {segitiga.keliling()}')
print(f'Persegi Panjang : {persegi_panjang.keliling()}')

if __name__ == "__main__":
    main()

```



```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS
PS C:\Users\tawhe\Documents\Belajar Python> python Object_Oriented_Programming.py
Luas:
Persegi : 16
Segitiga : 6.0
Persegi Panjang : 56
Keliling:
Persegi : 16
Segitiga : 12.0
Persegi Panjang : 30
PS C:\Users\tawhe\Documents\Belajar Python>

```

2. Easy Challenge (Menghitung Volume)

```
import math
```

```

class Kubus:
    def __init__(self, sisi):
        self.sisi = sisi

```

```

    def volume(self):
        return self.sisi ** 3

```

```

class Balok:
    def __init__(self, panjang, lebar, tinggi):
        self.panjang = panjang
        self.lebar = lebar
        self.tinggi = tinggi

    def volume(self):
        return self.panjang * self.lebar * self.tinggi

```

```

class Tabung:
    def __init__(self, jari_jari, tinggi):
        self.jari_jari = jari_jari

```

```

        self.tinggi = tinggi

    def volume(self):
        return math.pi * (self.jari_jari ** 2) * self.tinggi

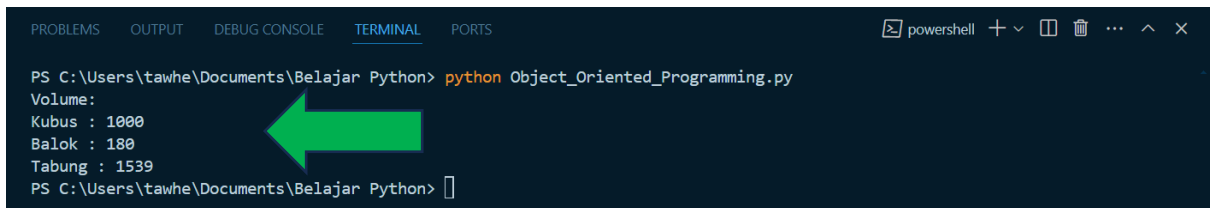
def main():
    print("Volume:")
    kubus = Kubus(10)
    print(f"Kubus : {kubus.volume()}")

    balok = Balok(3, 6, 10)
    print(f"Balok : {balok.volume()}")

    tabung = Tabung(7, 10)
    print(f"Tabung : {round(tabung.volume())}")

if __name__ == "__main__":
    main()

```



```

PS C:\Users\tawhe\Documents\Belajar Python> python Object_Oriented_Programming.py
Volume:
Kubus : 1000
Balok : 180
Tabung : 1539
PS C:\Users\tawhe\Documents\Belajar Python>

```

3. Medium Challenge (Kalkulator)

```

class Kalkulator:
    def penjumlahan(self, a, b):
        return a + b

    def pengurangan(self, a, b):
        return a - b

    def perkalian(self, a, b):
        return a * b

    def pembagian(self, a, b):
        if b == 0:
            return "Error: Pembagian dengan nol tidak diperbolehkan."
        return a / b

def main():
    kalkulator = Kalkulator()

```

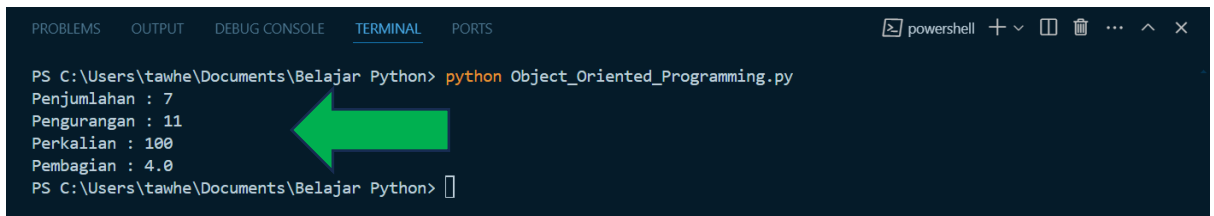
```
hasil_penjumlahan = kalkulator.penjumlahan(3, 4)
print(f'Penjumlahan : {hasil_penjumlahan}')
```

```
hasil_pengurangan = kalkulator.pengurangan(15, 4)
print(f'Pengurangan : {hasil_pengurangan}')
```

```
hasil_perkalian = kalkulator.perkalian(10, 10)
print(f'Perkalian : {hasil_perkalian}')
```

```
hasil_pembagian = kalkulator.pembagian(12, 3)
print(f'Pembagian : {hasil_pembagian}')
```

```
if __name__ == "__main__":
    main()
```



```
PS C:\Users\tawhe\Documents\Belajar Python> python Object_Oriented_Programming.py
Penjumlahan : 7
Pengurangan : 11
Perkalian : 100
Pembagian : 4.0
PS C:\Users\tawhe\Documents\Belajar Python>
```

4. Medium Challenge (Ongkos Kirim)

```
import math
```

```
class Barang:
```

```
    def __init__(self, panjang, lebar, tinggi, berat):
        self.panjang = panjang
        self.lebar = lebar
        self.tinggi = tinggi
        self.berat = berat
```

```
    def hitung_volume(self):
        return self.panjang * self.lebar * self.tinggi
```

```
    def hitung_berat_bulat(self):
        return math.ceil(self.berat)
```

```
    def hitung_harga_pengiriman(self):
        harga_standar = 5000
        volume = self.hitung_volume()
        berat_bulat = self.hitung_berat_bulat()
```

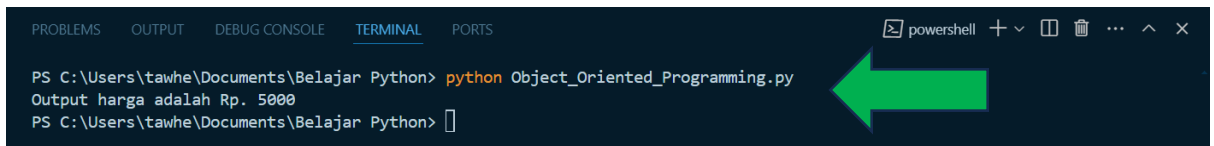
```
        if volume >= 50 and berat_bulat >= 1:
            return harga_standar
        else:
            return 0
```

```
panjang = 5
lebar = 2
tinggi = 4
berat = 1 # dalam kg

barang = Barang(panjang, lebar, tinggi, berat)

harga = barang.hitung_harga_pengiriman()

print(f'Output harga adalah Rp. {5000}')
```



The screenshot shows a PowerShell terminal window with a dark background. The title bar at the top indicates it is a 'powershell' window. The terminal content shows the command 'python Object_Oriented_Programming.py' being executed, which results in the output 'Output harga adalah Rp. 5000'. A large green arrow points from the right side of the terminal window towards the code block above it, highlighting the output.

```
PS C:\Users\tawhe\Documents\Belajar Python> python Object_Oriented_Programming.py
Output harga adalah Rp. 5000
PS C:\Users\tawhe\Documents\Belajar Python>
```