LAPORAN PRAKTIKUM

PEMROGRAMAN VISUAL

2023

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Aplikasi perhitungan menggunakan konsep Object Oriented Programming (OOP)

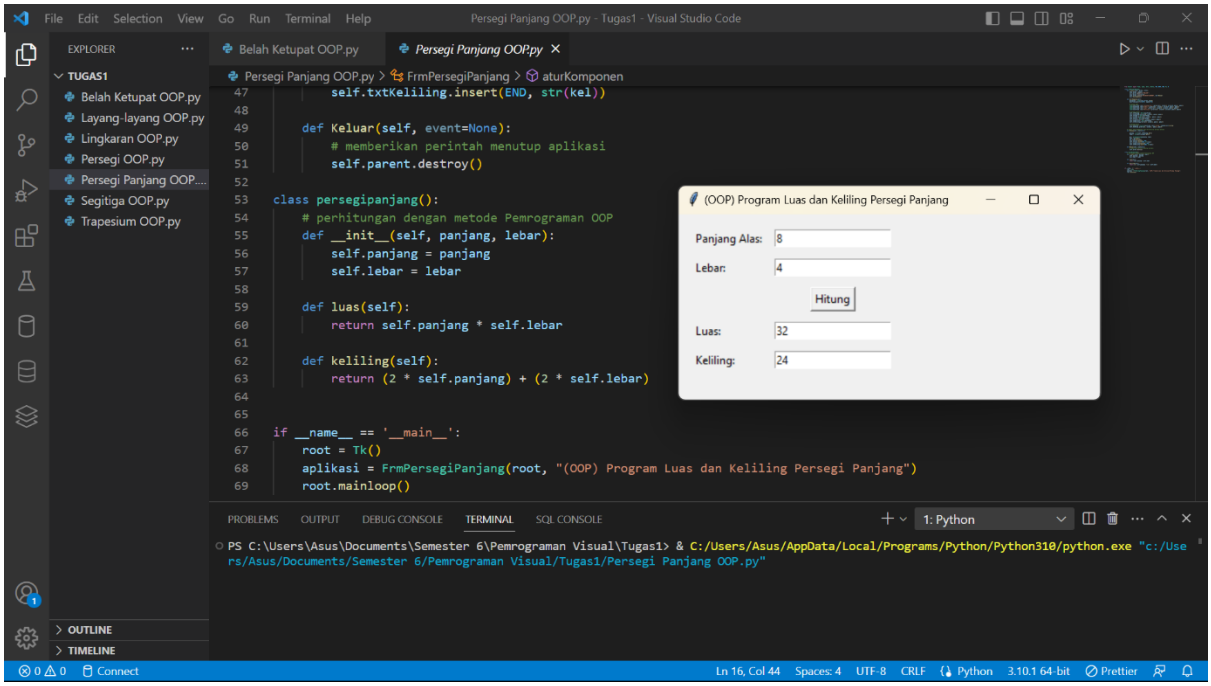
1. **Persegi Panjang**

Source Code :

```
from tkinter import Frame, Label, Entry, Button, YES, BOTH, END, Tk,
W

class FrmPersegiPanjang:
    def __init__(self, parent, title):
        self.parent = parent
        self.parent.geometry("400x200")
        self.parent.title(title)
        self.parent.protocol("WM_DELETE_WINDOW", self.Keluar)
        self.aturKomponen()

    def aturKomponen(self):
        mainFrame = Frame(self.parent, bd=10)
        mainFrame.pack(fill=BOTH, expand=YES)

        # pasang Label
        Label(mainFrame, text='Panjang Alas:').grid(row=0, column=0,
sticky=W, padx=5, pady=5)
        Label(mainFrame, text="Lebar:").grid(row=1, column=0,
sticky=W, padx=5, pady=5)
        Label(mainFrame, text="Luas:").grid(row=3, column=0,
sticky=W, padx=5, pady=5)
        Label(mainFrame, text="Keliling:").grid(row=4, column=0,
sticky=W, padx=5, pady=5)

        # pasang textbox
        self.txtPanjang = Entry(mainFrame)
        self.txtPanjang.grid(row=0, column=1, padx=5, pady=5)
        self.txtLebar = Entry(mainFrame)
        self.txtLebar.grid(row=1, column=1, padx=5, pady=5)
        self.txtLuas = Entry(mainFrame)
        self.txtLuas.grid(row=3, column=1, padx=5, pady=5)
        self.txtKeliling = Entry(mainFrame)
        self.txtKeliling.grid(row=4, column=1, padx=5, pady=5)

        # Pasang Button
        self.btnHitung = Button(mainFrame, text='Hitung',
command=self.Hitung)
```

```
        self.btnHitung.grid(row=2, column=1, padx=5, pady=5)

    # fungsi untuk menghitung luas dan keliling persegi panjang
    def Hitung(self, event=None):

        panjang = int(self.txtPanjang.get())
        lebar = int(self.txtLebar.get())

        pp = persegipanjang(panjang, lebar)
        luas = pp.luas()
        kel = pp.keliling()
        self.txtLuas.delete(0, END)
        self.txtLuas.insert(END, str(luas))
        self.txtKeliling.delete(0, END)
        self.txtKeliling.insert(END, str(kel))

    def Keluar(self, event=None):
        # memberikan perintah menutup aplikasi
        self.parent.destroy()

class persegipanjang():
    # perhitungan dengan metode Pemrograman OOP
    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) + (2 * self.lebar)


if __name__ == '__main__':
    root = Tk()
    aplikasi = FrmPersegiPanjang(root, "(OOP) Program Luas dan
Keliling Persegi Panjang")
    root.mainloop()
```

Hasil Program Persegi Panjang :



2. **Segitiga**

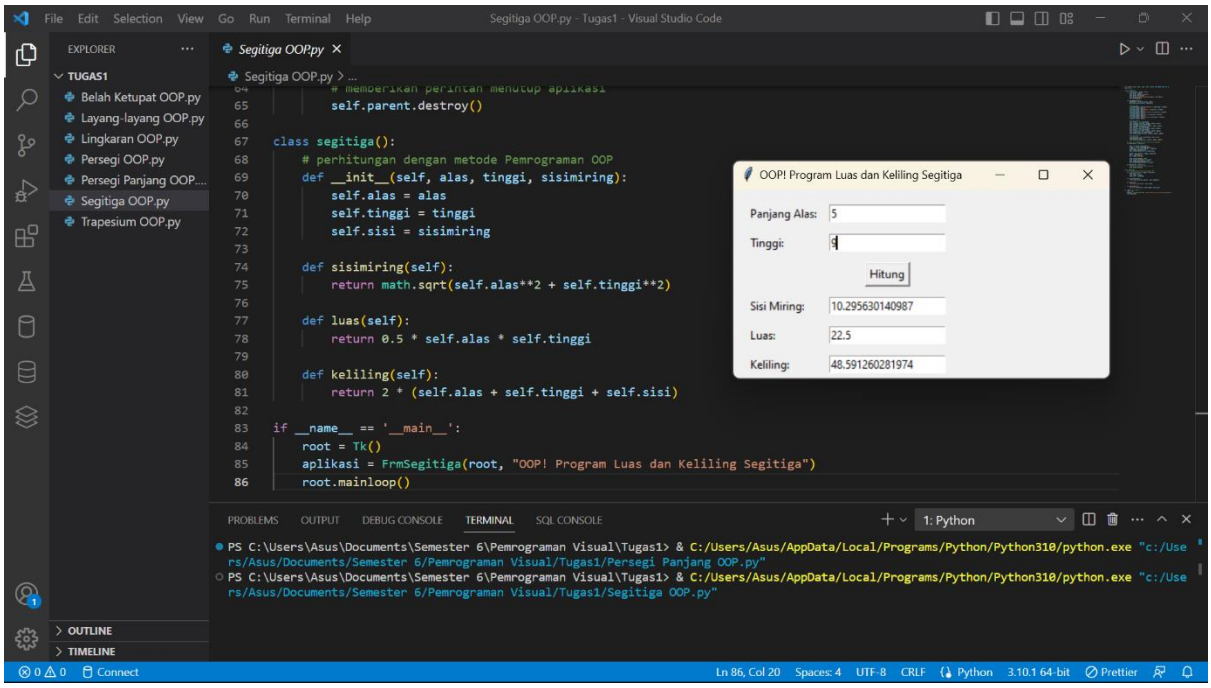
Source Code :

```
from tkinter import Frame, Label, Entry, Button, YES, BOTH, END, Tk,
W
import math

class FrmSegitiga:
    def __init__(self, parent, title):
        self.parent = parent
        self.parent.geometry("400x200")
        self.parent.title(title)
        self.parent.protocol("WM_DELETE_WINDOW", self.Keluar)
        self.aturKomponen()

    def aturKomponen(self):
        mainFrame = Frame(self.parent, bd=10)
        mainFrame.pack(fill=BOTH, expand=YES)

        # pasang Label
        Label(mainFrame, text="Panjang Alas:").grid(row=0, column=0,
        sticky=W, padx=5, pady=5)
        Label(mainFrame, text="Tinggi:").grid(row=1, column=0,
        sticky=W, padx=5, pady=5)
```

```
        Label(mainFrame, text="Sisi Miring:").grid(row=3, column=0,
        sticky=W, padx=5, pady=5)
        Label(mainFrame, text="Luas:").grid(row=4, column=0,
        sticky=W, padx=5, pady=5)
        Label(mainFrame, text="Keliling:").grid(row=5, column=0,
        sticky=W, padx=5, pady=5)

        # pasang textbox
        self.txtAlas = Entry(mainFrame)
        self.txtAlas.grid(row=0, column=1, padx=5, pady=5)
        self.txtTinggi = Entry(mainFrame)
        self.txtTinggi.grid(row=1, column=1, padx=5, pady=5)
        self.txtSisi = Entry(mainFrame)
        self.txtSisi.grid(row=3, column=1, padx=5, pady=5)
        self.txtLuas = Entry(mainFrame)
        self.txtLuas.grid(row=4, column=1, padx=5, pady=5)
        self.txtKeliling = Entry(mainFrame)
        self.txtKeliling.grid(row=5, column=1, padx=5, pady=5)

        # Pasang Button
        self.btnHitung = Button(mainFrame, text='Hitung',
        command=self.Hitung)
        self.btnHitung.grid(row=2, column=1, padx=5, pady=5)

    # fungsi untuk menghitung luas dan keliling segitiga
    def Hitung(self, event=None):

        alas = int(self.txtAlas.get())
        tinggi = int(self.txtTinggi.get())
        sisimiring = math.sqrt(alas**2 + tinggi**2)
        self.txtSisi.delete(0,END)
        self.txtSisi.insert(END,str(sisimiring))

        segi3 = segitiga(alas, tinggi, sisimiring)
        luas = segi3.luas()
        kel = segi3.keliling()

        self.txtLuas.delete(0, END)
        self.txtLuas.insert(END, str(luas))
        self.txtKeliling.delete(0, END)
        self.txtKeliling.insert(END, str(kel))

    def Keluar(self, event=None):
```

```
        # memberikan perintah menutup aplikasi
        self.parent.destroy()

class segitiga():
    # perhitungan dengan metode Pemrograman OOP
    def __init__(self, alas, tinggi, sisimiring):
        self.alas = alas
        self.tinggi = tinggi
        self.sisi = sisimiring

    def sisimiring(self):
        return math.sqrt(self.alas**2 + self.tinggi**2)

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

    def keliling(self):
        return 2 * (self.alas + self.tinggi + self.sisi)

if __name__ == '__main__':
    root = Tk()
    aplikasi = FrmSegitiga(root, "OOP! Program Luas dan Keliling
Segitiga")
    root.mainloop()
```

Hasil Program Segitiga :



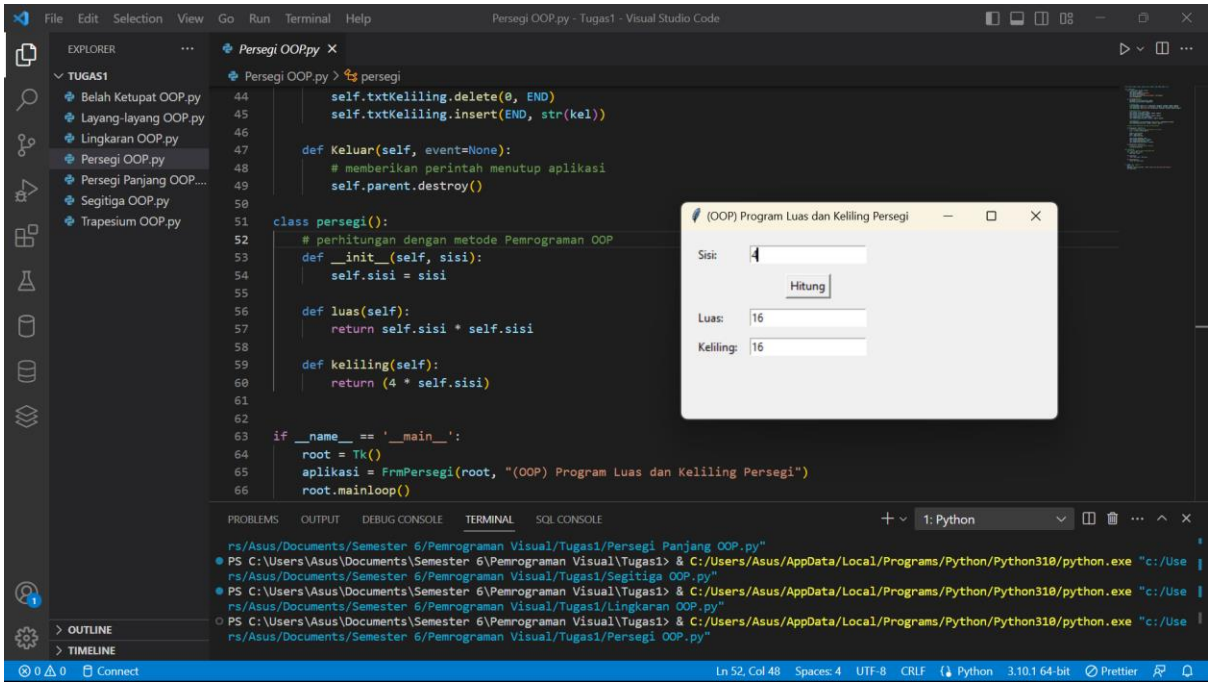
3. **Persegi**

Source Code :

```
from tkinter import Frame, Label, Entry, Button, YES, BOTH, END, Tk,
W

class FrmPersegi:
    def __init__(self, parent, title):
        self.parent = parent
        self.parent.geometry("400x200")
        self.parent.title(title)
        self.parent.protocol("WM_DELETE_WINDOW", self.Keluar)
        self.aturKomponen()

    def aturKomponen(self):
        mainFrame = Frame(self.parent, bd=10)
        mainFrame.pack(fill=BOTH, expand=YES)

        # pasang Label
        Label(mainFrame, text='Sisi:').grid(row=0, column=0,
sticky=W, padx=5, pady=5)
        Label(mainFrame, text="Luas:").grid(row=2, column=0,
sticky=W, padx=5, pady=5)
        Label(mainFrame, text="Keliling:").grid(row=3, column=0,
sticky=W, padx=5, pady=5)

        # pasang textbox
        self.txtSisi = Entry(mainFrame)
        self.txtSisi.grid(row=0, column=1, padx=5, pady=5)
        self.txtLuas = Entry(mainFrame)
        self.txtLuas.grid(row=2, column=1, padx=5, pady=5)
        self.txtKeliling = Entry(mainFrame)
        self.txtKeliling.grid(row=3, column=1, padx=5, pady=5)

        # Pasang Button
        self.btnHitung = Button(mainFrame, text='Hitung',
command=self.Hitung)
        self.btnHitung.grid(row=1, column=1, padx=5, pady=5)

    # fungsi untuk menghitung luas dan keliling persegi

    def Hitung(self, event=None):
        # perhitungan dengan metode Pemrograman Terstruktur
```

```
        sisi = int(self.txtSisi.get())

        segi4 = persegi(sisi)
        luas = segi4.luas()
        kel = segi4.keliling()

        self.txtLuas.delete(0, END)
        self.txtLuas.insert(END, str(luas))
        self.txtKeliling.delete(0, END)
        self.txtKeliling.insert(END, str(kel))

    def Keluar(self, event=None):
        # memberikan perintah menutup aplikasi
        self.parent.destroy()

class persegi():
    # perhitungan dengan metode Pemrograman OOP
    def __init__(self, sisi):
        self.sisi = sisi

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

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


if __name__ == '__main__':
    root = Tk()
    aplikasi = FrmPersegi(root, "(OOP) Program Luas dan Keliling
Persegi")
    root.mainloop()
```

Hasil Program Persegi :



4. **Lingkaran**

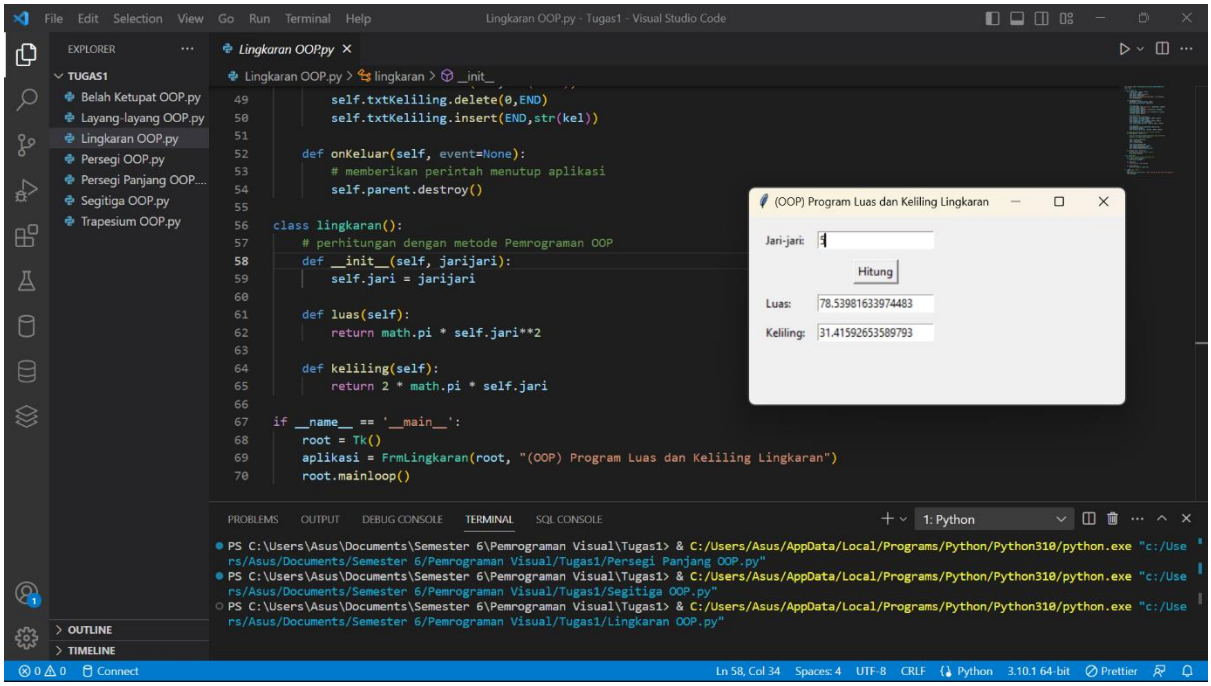
Source Code :

```
from tkinter import Frame,Label,Entry,Button,YES,BOTH,END,Tk,W
import math

class FrmLingkaran:
    def __init__(self, parent, title):
        self.parent = parent
        self.parent.geometry("400x200")
        self.parent.title(title)
        self.parent.protocol("WM_DELETE_WINDOW", self.onKeluar)
        self.aturKomponen()

    def aturKomponen(self):
        mainFrame = Frame(self.parent, bd=10)
        mainFrame.pack(fill=BOTH, expand=YES)

        # pasang Label
        Label(mainFrame, text='Jari-jari:').grid(row=0, column=0,
        sticky=W, padx=5, pady=5)
        Label(mainFrame, text="Luas:").grid(row=2, column=0,
        sticky=W, padx=5, pady=5)
        Label(mainFrame, text="Keliling:").grid(row=3, column=0,
```

```
        sticky=W, padx=5, pady=5)

        # pasang textbox
        self.txtJari = Entry(mainFrame)
        self.txtJari.grid(row=0, column=1, padx=5, pady=5)
        self.txtLuas = Entry(mainFrame)
        self.txtLuas.grid(row=2, column=1, padx=5, pady=5)
        self.txtKeliling = Entry(mainFrame)
        self.txtKeliling.grid(row=3, column=1, padx=5, pady=5)

        # Pasang Button
        self.btnHitung = Button(mainFrame, text='Hitung',
        command=self.onHitung)
        self.btnHitung.grid(row=1, column=1, padx=5, pady=5)

    # fungsi untuk menghitung luas dan keliling lingkaran
    def onHitung(self, event=None):

        # perhitungan dengan metode Pemrograman Tidak Terstruktur
        jarijari = int(self.txtJari.get())

        ling = lingkaran(jarijari)
        luas = ling.luas()
        kel = ling.keliling()

        self.txtLuas.delete(0,END)
        self.txtLuas.insert(END,str(luas))
        self.txtKeliling.delete(0,END)
        self.txtKeliling.insert(END,str(kel))

    def onKeluar(self, event=None):
        # memberikan perintah menutup aplikasi
        self.parent.destroy()

class lingkaran():
    # perhitungan dengan metode Pemrograman OOP
    def __init__(self, jarijari):
        self.jari = jarijari

    def luas(self):
        return math.pi * self.jari**2

    def keliling(self):
```

```
        return 2 * math.pi * self.jari

if __name__ == '__main__':
    root = Tk()
    aplikasi = FrmLingkaran(root, "(OOP) Program Luas dan Keliling
Lingkaran")
    root.mainloop()
```

Hasil Program Lingkaran :



5. **Trapesium**

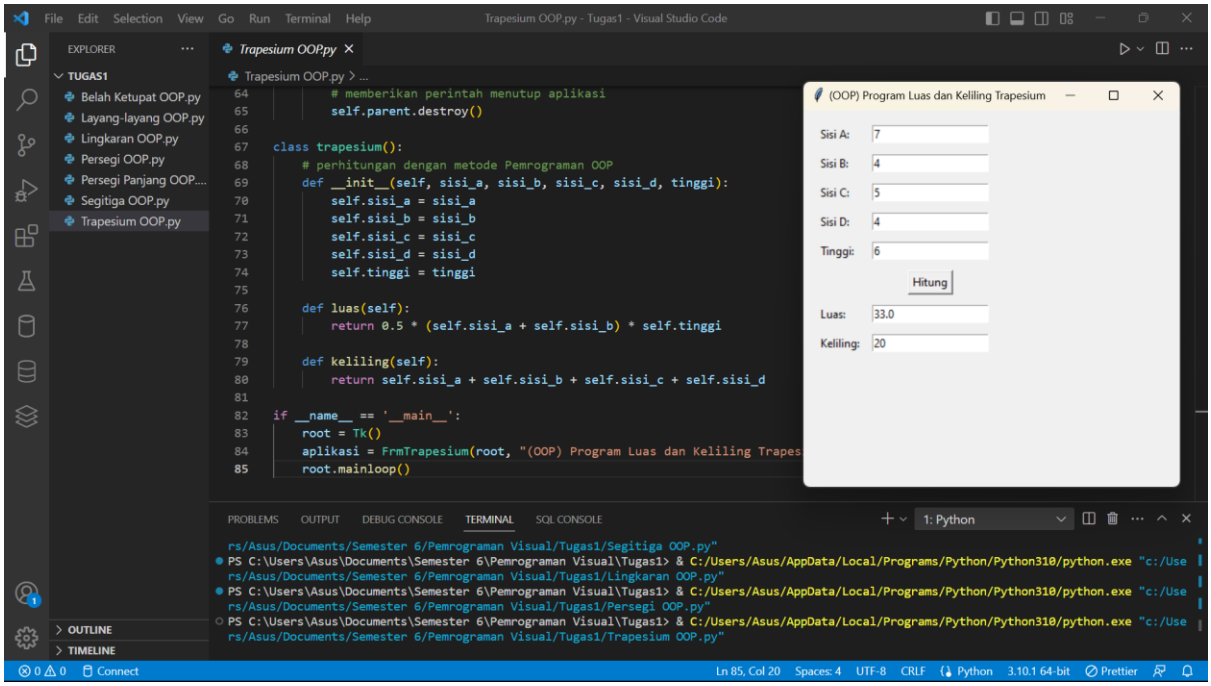
Source Code :

```
from tkinter import Frame,Label,Entry,Button,YES,BOTH,END,Tk,W

class FrmTrapesium:
    def __init__(self, parent, title):
        self.parent = parent
        self.parent.geometry("400x400")
        self.parent.title(title)
        self.parent.protocol("WM_DELETE_WINDOW", self.onKeluar)
        self.aturKomponen()

    def aturKomponen(self):
        mainFrame = Frame(self.parent, bd=10)
```

```
        mainFrame.pack(fill=BOTH, expand=YES)

        # pasang Label
        Label(mainFrame, text='Sisi A:').grid(row=1,
column=0,sticky=W, padx=5, pady=5)
        Label(mainFrame, text='Sisi B:').grid(row=2,
column=0,sticky=W, padx=5, pady=5)
        Label(mainFrame, text='Sisi C:').grid(row=3,
column=0,sticky=W, padx=5, pady=5)
        Label(mainFrame, text='Sisi D:').grid(row=4,
column=0,sticky=W, padx=5, pady=5)
        Label(mainFrame, text="Tinggi:").grid(row=5,
column=0,sticky=W, padx=5, pady=5)
        Label(mainFrame, text="Luas:").grid(row=7,
column=0,sticky=W, padx=5, pady=5)
        Label(mainFrame, text="Keliling:").grid(row=8,
column=0,sticky=W, padx=5, pady=5)

        # pasang textbox
        self.txtSisi_A = Entry(mainFrame)
        self.txtSisi_A.grid(row=1, column=1, padx=5, pady=5)
        self.txtSisi_B = Entry(mainFrame)
        self.txtSisi_B.grid(row=2, column=1, padx=5, pady=5)
        self.txtSisi_C = Entry(mainFrame)
        self.txtSisi_C.grid(row=3, column=1, padx=5, pady=5)
        self.txtSisi_D = Entry(mainFrame)
        self.txtSisi_D.grid(row=4, column=1, padx=5, pady=5)
        self.txtTinggi = Entry(mainFrame)
        self.txtTinggi.grid(row=5, column=1, padx=5, pady=5)
        self.txtLuas = Entry(mainFrame)
        self.txtLuas.grid(row=7, column=1, padx=5, pady=5)
        self.txtKeliling = Entry(mainFrame)
        self.txtKeliling.grid(row=8, column=1, padx=5, pady=5)

        # Pasang Button
        self.btnHitung = Button(mainFrame,
text='Hitung',command=self.onHitung)
        self.btnHitung.grid(row=6, column=1, padx=5, pady=5)

    # fungsi untuk menghitung luas dan keliling trapesium
    def onHitung(self, event=None):

        # perhitungan dengan metode Pemrograman Tidak Terstruktur
```

```
        sisi_a = int(self.txtSisi_A.get())
        sisi_b = int(self.txtSisi_B.get())
        sisi_c = int(self.txtSisi_C.get())
        sisi_d = int(self.txtSisi_D.get())
        tinggi = int(self.txtTinggi.get())

        trap = trapesium(sisi_a, sisi_b, sisi_c, sisi_d, tinggi)
        luas = trap.luas()
        kel = trap.keliling()

        self.txtLuas.delete(0,END)
        self.txtLuas.insert(END,str(luas))
        self.txtKeliling.delete(0,END)
        self.txtKeliling.insert(END,str(kel))

    def onKeluar(self, event=None):
        # memberikan perintah menutup aplikasi
        self.parent.destroy()

class trapesium():
    # perhitungan dengan metode Pemrograman OOP
    def __init__(self, sisi_a, sisi_b, sisi_c, sisi_d, tinggi):
        self.sisi_a = sisi_a
        self.sisi_b = sisi_b
        self.sisi_c = sisi_c
        self.sisi_d = sisi_d
        self.tinggi = tinggi

    def luas(self):
        return 0.5 * (self.sisi_a + self.sisi_b) * self.tinggi

    def keliling(self):
        return self.sisi_a + self.sisi_b + self.sisi_c + self.sisi_d

if __name__ == '__main__':
    root = Tk()
    aplikasi = FrmTrapesium(root, "(OOP) Program Luas dan Keliling
Trapesium")
    root.mainloop()
```

Hasil Program Trapesium :



6. **Layang-layang**

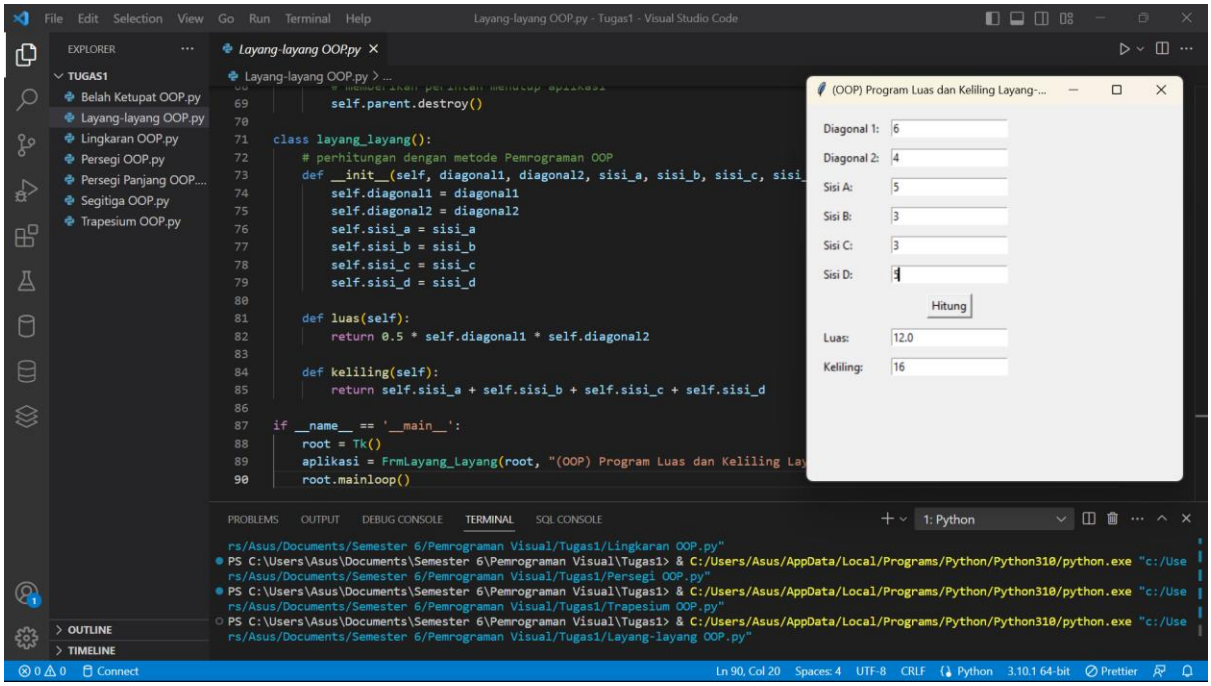
Source Code :

```
from tkinter import Frame,Label,Entry,Button,YES,BOTH,END,Tk,W

class FrmLayang_Layang:
    def __init__(self, parent, title):
        self.parent = parent
        self.parent.geometry("400x400")
        self.parent.title(title)
        self.parent.protocol("WM_DELETE_WINDOW", self.onKeluar)
        self.aturKomponen()

    def aturKomponen(self):
        mainFrame = Frame(self.parent, bd=10)
        mainFrame.pack(fill=BOTH, expand=YES)

        # pasang Label
        Label(mainFrame, text='Diagonal 1:').grid(row=1,
column=0,sticky=W, padx=5, pady=5)
        Label(mainFrame, text='Diagonal 2:').grid(row=2,
column=0,sticky=W, padx=5, pady=5)
        Label(mainFrame, text='Sisi A:').grid(row=3,
column=0,sticky=W, padx=5, pady=5)
```

```
        Label(mainFrame, text='Sisi B:').grid(row=4,
column=0,sticky=W, padx=5, pady=5)
        Label(mainFrame, text='Sisi C:').grid(row=5,
column=0,sticky=W, padx=5, pady=5)
        Label(mainFrame, text='Sisi D:').grid(row=6,
column=0,sticky=W, padx=5, pady=5)
        Label(mainFrame, text="Luas:").grid(row=8,
column=0,sticky=W, padx=5, pady=5)
        Label(mainFrame, text="Keliling:").grid(row=9,
column=0,sticky=W, padx=5, pady=5)

        # pasang textbox
        self.txtDiagonal_1 = Entry(mainFrame)
        self.txtDiagonal_1.grid(row=1, column=1, padx=5, pady=5)
        self.txtDiagonal_2 = Entry(mainFrame)
        self.txtDiagonal_2.grid(row=2, column=1, padx=5, pady=5)
        self.txtSisi_a = Entry(mainFrame)
        self.txtSisi_a.grid(row=3, column=1, padx=5, pady=5)
        self.txtSisi_b = Entry(mainFrame)
        self.txtSisi_b.grid(row=4, column=1, padx=5, pady=5)
        self.txtSisi_c = Entry(mainFrame)
        self.txtSisi_c.grid(row=5, column=1, padx=5, pady=5)
        self.txtSisi_d = Entry(mainFrame)
        self.txtSisi_d.grid(row=6, column=1, padx=5, pady=5)
        self.txtLuas = Entry(mainFrame)
        self.txtLuas.grid(row=8, column=1, padx=5, pady=5)
        self.txtKeliling = Entry(mainFrame)
        self.txtKeliling.grid(row=9, column=1, padx=5, pady=5)

        # Pasang Button
        self.btnHitung = Button(mainFrame,
text='Hitung',command=self.onHitung)
        self.btnHitung.grid(row=7, column=1, padx=5, pady=5)

    # fungsi untuk menghitung luas dan keliling layang-layang
    def onHitung(self, event=None):

        # perhitungan dengan metode Pemrograman Tidak Terstruktur
        diagonal1 = int(self.txtDiagonal_1.get())
        diagonal2 = int(self.txtDiagonal_2.get())
        sisi_a = int(self.txtSisi_a.get())
        sisi_b = int(self.txtSisi_b.get())
        sisi_c = int(self.txtSisi_c.get())
```

```
        sisi_d = int(self.txtSisi_d.get())

        layang = layang_layang(diagonal1, diagonal2, sisi_a, sisi_b,
sisi_c, sisi_d)
        luas = layang.luas()
        kel = layang.keliling()

        self.txtLuas.delete(0,END)
        self.txtLuas.insert(END,str(luas))
        self.txtKeliling.delete(0,END)
        self.txtKeliling.insert(END,str(kel))

    def onKeluar(self, event=None):
        # memberikan perintah menutup aplikasi
        self.parent.destroy()

class layang_layang():
    # perhitungan dengan metode Pemrograman OOP
    def __init__(self, diagonal1, diagonal2, sisi_a, sisi_b, sisi_c,
sisi_d):
        self.diagonal1 = diagonal1
        self.diagonal2 = diagonal2
        self.sisi_a = sisi_a
        self.sisi_b = sisi_b
        self.sisi_c = sisi_c
        self.sisi_d = sisi_d

    def luas(self):
        return 0.5 * self.diagonal1 * self.diagonal2

    def keliling(self):
        return self.sisi_a + self.sisi_b + self.sisi_c + self.sisi_d

if __name__ == '__main__':
    root = Tk()
    aplikasi = FrmLayang_Layang(root, "(OOP) Program Luas dan
Keliling Layang-Layang")
    root.mainloop()
```

Hasil Program Layang-layang :



7. **Belah Ketupat**

Source Code :

```
from tkinter import Frame,Label,Entry,Button,YES,BOTH,END,Tk,W

class FrmBelah_Ketupat:
    def __init__(self, parent, title):
        self.parent = parent
        self.parent.geometry("400x400")
        self.parent.title(title)
        self.parent.protocol("WM_DELETE_WINDOW", self.onKeluar)
        self.aturKomponen()

    def aturKomponen(self):
        mainFrame = Frame(self.parent, bd=10)
        mainFrame.pack(fill=BOTH, expand=YES)

        # pasang Label
        Label(mainFrame, text='Diagonal 1:').grid(row=1,
column=0,sticky=W, padx=5, pady=5)
        Label(mainFrame, text='Diagonal 2:').grid(row=2,
column=0,sticky=W, padx=5, pady=5)
        Label(mainFrame, text='Panjang Sisi:').grid(row=3,
column=0,sticky=W, padx=5, pady=5)
```

```
        Label(mainFrame, text="Luas:").grid(row=5,
column=0,sticky=W, padx=5, pady=5)
        Label(mainFrame, text="Keliling:").grid(row=6,
column=0,sticky=W, padx=5, pady=5)

        # pasang textbox
        self.txtDiagonal_1 = Entry(mainFrame)
        self.txtDiagonal_1.grid(row=1, column=1, padx=5, pady=5)
        self.txtDiagonal_2 = Entry(mainFrame)
        self.txtDiagonal_2.grid(row=2, column=1, padx=5, pady=5)
        self.txtSisi = Entry(mainFrame)
        self.txtSisi.grid(row=3, column=1, padx=5, pady=5)
        self.txtLuas = Entry(mainFrame)
        self.txtLuas.grid(row=5, column=1, padx=5, pady=5)
        self.txtKeliling = Entry(mainFrame)
        self.txtKeliling.grid(row=6, column=1, padx=5, pady=5)

        # Pasang Button
        self.btnHitung = Button(mainFrame,
text='Hitung',command=self.onHitung)
        self.btnHitung.grid(row=4, column=1, padx=5, pady=5)

    # fungsi untuk menghitung luas dan keliling belah ketupat
    def onHitung(self, event=None):

        # perhitungan dengan metode Pemrograman Tidak Terstruktur
        diagonal1 = int(self.txtDiagonal_1.get())
        diagonal2 = int(self.txtDiagonal_2.get())
        sisi = int(self.txtSisi.get())

        luas = 0.5 * diagonal1 * diagonal2
        self.txtLuas.delete(0,END)
        self.txtLuas.insert(END,str(luas))

        kel = 4 * sisi
        self.txtKeliling.delete(0,END)
        self.txtKeliling.insert(END,str(kel))

    def onKeluar(self, event=None):
        # memberikan perintah menutup aplikasi
        self.parent.destroy()

if __name__ == '__main__':
```

```
    root = Tk()
    aplikasi = FrmBelah_Ketupat(root, "(OOP) Program Luas dan
Keliling Belah Ketupat")
    root.mainloop()
```

Hasil Program Belah Ketupat :