LAPORAN PRAKTIKUM

PEMROGRAMAN VISUAL

2023

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Aplikasi perhitungan menggunakan konsep *Object Oriented Programming* (OOP)

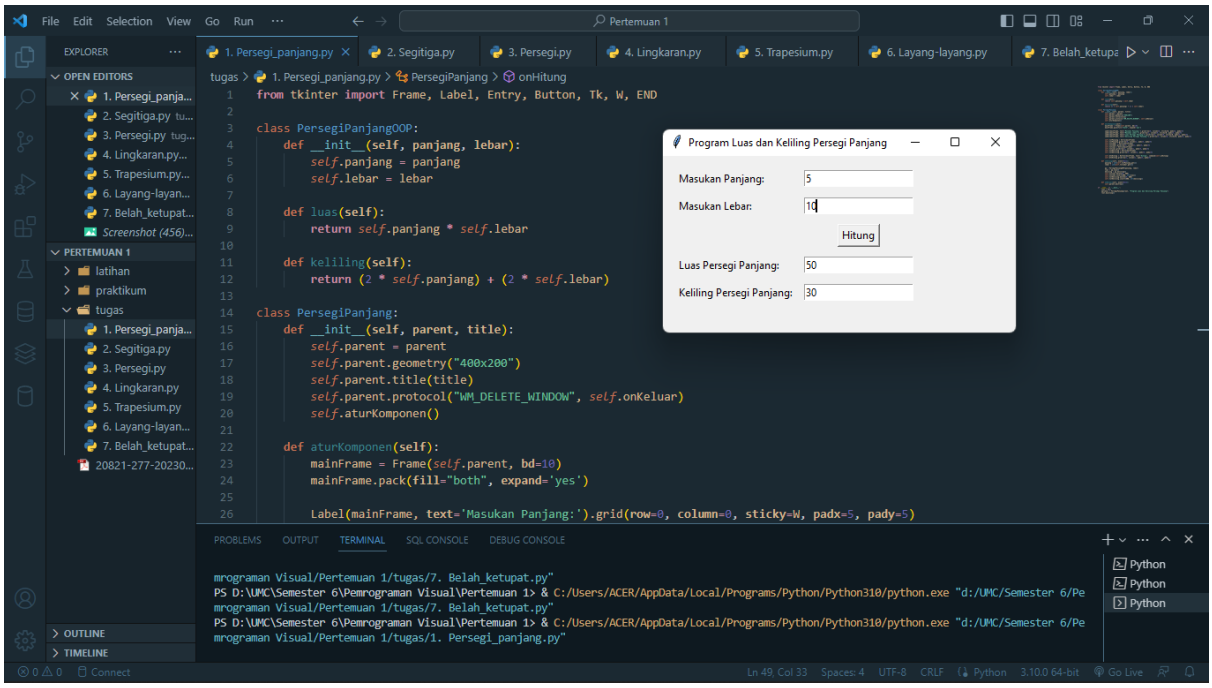
1. Persegi Panjang

   Source code :

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

class PersegiPanjangOOP:
    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)

class PersegiPanjang:
    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')

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

```
        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)

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

    def onHitung(self, event=None):
        panjang = int(self.txtPanjang.get())
        lebar = int(self.txtLebar.get())

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

    def onKeluar(self, event=None):
        self.parent.destroy()

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

Hasil Program Persegi Panjang :



2. Segitiga

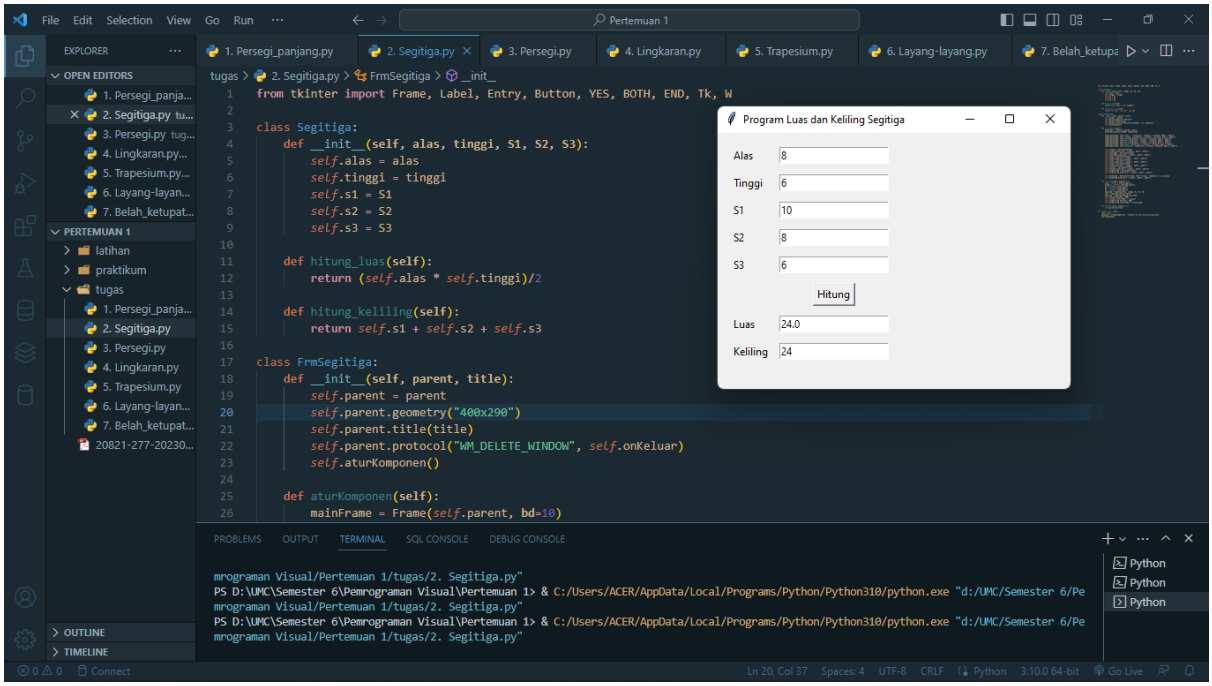
Source code :

```
from tkinter import Frame, Label, Entry, Button, YES, BOTH, END, Tk, W
class Segitiga:
    def __init__(self, alas, tinggi, S1, S2, S3):
        self.alas = alas
        self.tinggi = tinggi
        self.s1 = S1
        self.s2 = S2
        self.s3 = S3
    def hitung_luas(self):
        return (self.alas * self.tinggi)/2
    def hitung_keliling(self):
        return self.s1 + self.s2 + self.s3
class FrmSegitiga:
    def __init__(self, parent, title):
        self.parent = parent
        self.parent.geometry("400x290")
        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)

        Label(mainFrame, text='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="S1").grid(row=3, column=0, sticky=W,
padx=5, pady=5)
        Label(mainFrame, text="S2").grid(row=4, column=0, sticky=W,
padx=5, pady=5)
        Label(mainFrame, text="S3").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)

        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.txtS1 = Entry(mainFrame)
        self.txtS1.grid(row=3, column=1, padx=5, pady=5)
        self.txtS2 = Entry(mainFrame)
        self.txtS2.grid(row=4, column=1, padx=5, pady=5)
        self.txtS3 = Entry(mainFrame)
        self.txtS3.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)
        self.btnHitung = Button(mainFrame, text='Hitung',
command=self.on_hitung)
```

```
        self.btnHitung.grid(row=6, column=1, padx=5, pady=5)

    def on_hitung(self, event=None):
        alas = int(self.txtAlas.get())
        tinggi = int(self.txtTinggi.get())
        S1 = int(self.txtS1.get())
        S2 = int(self.txtS2.get())
        S3 = int(self.txtS3.get())
        segitiga = Segitiga(alas, tinggi, S1, S2, S3)
        luas = segitiga.hitung_luas()
        keliling = segitiga.hitung_keliling()
        self.txtLuas.delete(0, END)
        self.txtLuas.insert(END, str(luas))
        self.txtKeliling.delete(0, END)
        self.txtKeliling.insert(END, str(keliling))
    def onKeluar(self, event=None):
        self.parent.destroy()
if __name__ == '__main__':
    root = Tk()
    aplikasi = FrmSegitiga(root, "Program Luas dan Keliling Segitiga")
    root.mainloop()
```

Hasil Program Segitiga :



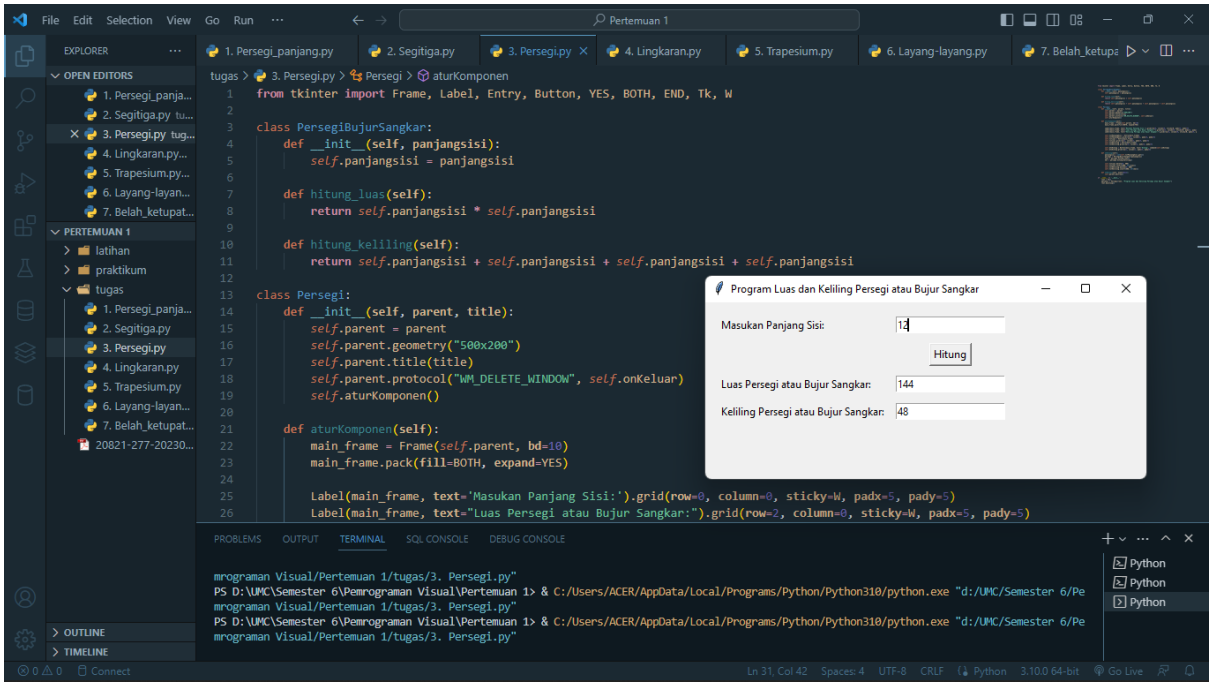
3. Persegi atau Bujur Sangkar

Source code :

```
from tkinter import Frame, Label, Entry, Button, YES, BOTH, END, Tk, W
class PersegiBujurSangkar:
    def __init__(self, panjangsisi):
        self.panjangsisi = panjangsisi
    def hitung_luas(self):
        return self.panjangsisi * self.panjangsisi
    def hitung_keliling(self):
        return self.panjangsisi + self.panjangsisi + self.panjangsisi +
self.panjangsisi

class Persegi:
    def __init__(self, parent, title):
        self.parent = parent
        self.parent.geometry("500x200")
        self.parent.title(title)
        self.parent.protocol("WM_DELETE_WINDOW", self.onKeluar)
        self.aturKomponen()
    def aturKomponen(self):
        main_frame = Frame(self.parent, bd=10)
        main_frame.pack(fill=BOTH, expand=YES)

        Label(main_frame, text='Masukan Panjang Sisi:').grid(row=0,
column=0, sticky=W, padx=5, pady=5)
        Label(main_frame, text="Luas Persegi atau Bujur
Sangkar:").grid(row=2, column=0, sticky=W, padx=5, pady=5)
        Label(main_frame, text="Keliling Persegi atau Bujur
Sangkar:").grid(row=3, column=0, sticky=W, padx=5, pady=5)

        self.txtPanjangSisi = Entry(main_frame)
        self.txtPanjangSisi.grid(row=0, column=1, padx=5, pady=5)
        self.txtLuas = Entry(main_frame)
        self.txtLuas.grid(row=2, column=1, padx=5, pady=5)
        self.txtKeliling = Entry(main_frame)
        self.txtKeliling.grid(row=3, column=1, padx=5, pady=5)
```

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

    def onHitung(self):
        panjangsisi = int(self.txtPanjangSisi.get())
        persegi = PersegiBujurSangkar(panjangsisi)
        luas = persegi.hitung_luas()
        kel = persegi.hitung_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):
        self.parent.destroy()
if __name__ == '__main__':
    root = Tk()
    aplikasi = Persegi(root, "Program Luas dan Keliling Persegi atau
Bujur Sangkar")
    root.mainloop()
```

Hasil Program Persegi atau Bujur Sangkar :



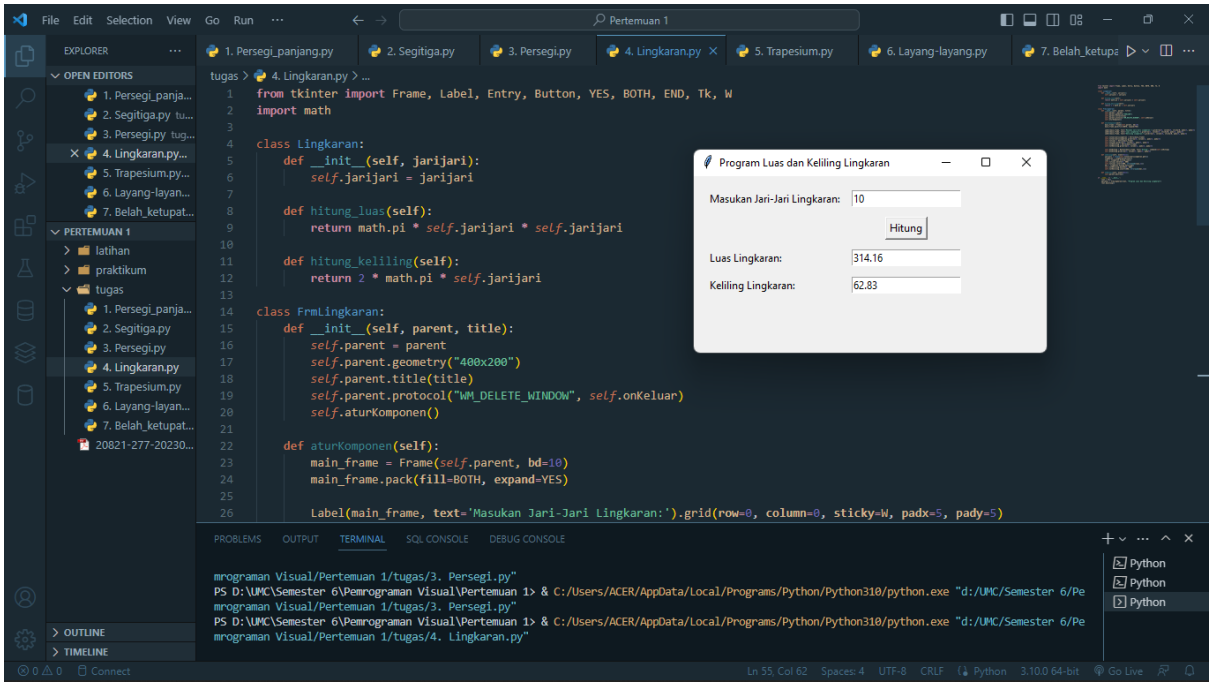
4. Lingkaran

Source code :

```
from tkinter import Frame, Label, Entry, Button, YES, BOTH, END, Tk, W
import math
class Lingkaran:
    def __init__(self, jarijari):
        self.jarijari = jarijari
    def hitung_luas(self):
        return math.pi * self.jarijari * self.jarijari
    def hitung_keliling(self):
        return 2 * math.pi * self.jarijari

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

        Label(main_frame, text='Masukan Jari-Jari
Lingkaran:').grid(row=0, column=0, sticky=W, padx=5, pady=5)
        Label(main_frame, text="Luas Lingkaran:").grid(row=3, column=0,
sticky=W, padx=5, pady=5)
        Label(main_frame, text="Keliling Lingkaran:").grid(row=4,
column=0, sticky=W, padx=5, pady=5)

        self.txtJariJariLingkaran = Entry(main_frame)
        self.txtJariJariLingkaran.grid(row=0, column=1, padx=5, pady=5)
        self.txtLuas = Entry(main_frame)
        self.txtLuas.grid(row=3, column=1, padx=5, pady=5)
        self.txtKeliling = Entry(main_frame)
        self.txtKeliling.grid(row=4, column=1, padx=5, pady=5)
```

```
        self.btnHitung = Button(main_frame, text='Hitung',
command=self.onHitung)
        self.btnHitung.grid(row=2, column=1, padx=5, pady=5)

    def onHitung(self, event=None):
        jarijari = float(self.txtJariJariLingkaran.get())
        lingkaran = Lingkaran(jarijari)
        luas = lingkaran.hitung_luas()
        self.txtLuas.delete(0, END)
        self.txtLuas.insert(END, str(round(luas,2)))
        kel = lingkaran.hitung_keliling()
        self.txtKeliling.delete(0, END)
        self.txtKeliling.insert(END, str(round(kel,2)))
    def onKeluar(self, event=None):
        self.parent.destroy()

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

Hasil Program Lingkaran :



5. Trapesium

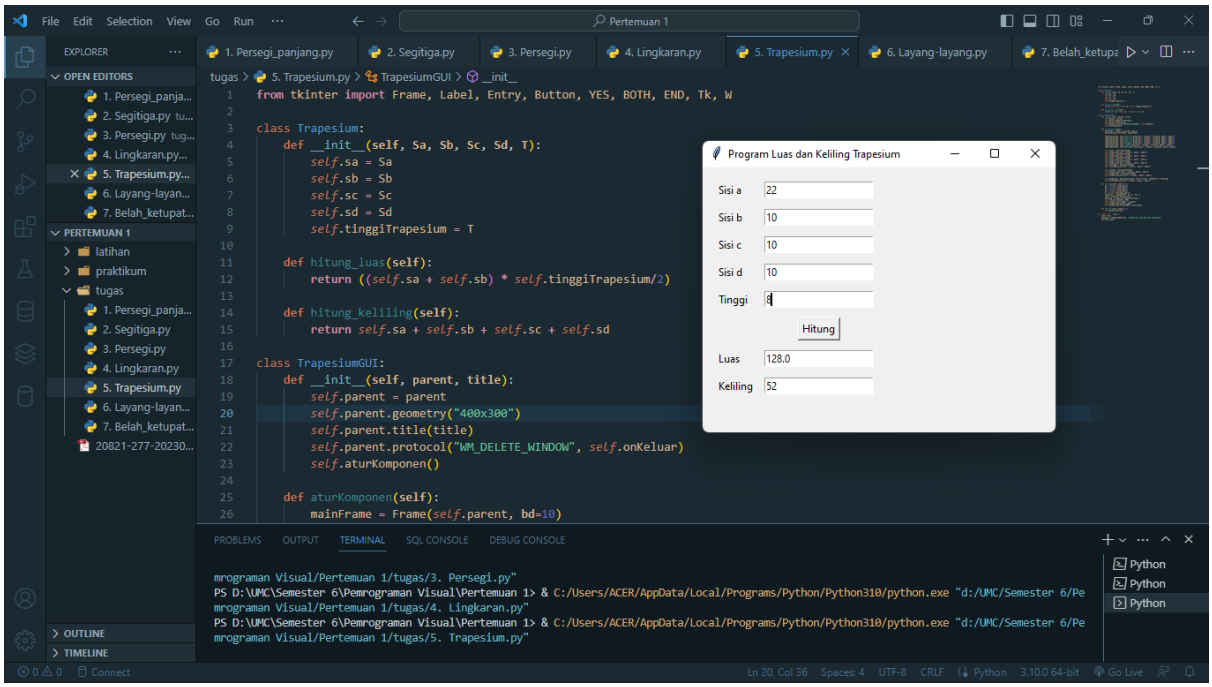
Source code :

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

class Trapesium:
    def __init__(self, Sa, Sb, Sc, Sd, T):
        self.sa = Sa
        self.sb = Sb
        self.sc = Sc
        self.sd = Sd
        self.tinggiTrapesium = T

    def hitung_luas(self):
        return ((self.sa + self.sb) * self.tinggiTrapesium/2)

    def hitung_keliling(self):
        return self.sa + self.sb + self.sc + self.sd

class TrapesiumGUI:
    def __init__(self, parent, title):
        self.parent = parent
        self.parent.geometry("400x300")
        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)

        Label(mainFrame, text='Sisi a').grid(row=0, column=0, sticky=W,
padx=5, pady=5)
        Label(mainFrame, text="Sisi b").grid(row=1, column=0, sticky=W,
padx=5, pady=5)
        Label(mainFrame, text="Sisi c").grid(row=2, column=0, sticky=W,
padx=5, pady=5)
```

```
        Label(mainFrame, text="Sisi d").grid(row=3, column=0, sticky=W,
padx=5, pady=5)
        Label(mainFrame, text="Tinggi").grid(row=4, column=0, sticky=W,
padx=5, pady=5)
        Label(mainFrame, text="Luas").grid(row=6, column=0, sticky=W,
padx=5, pady=5)
        Label(mainFrame, text="Keliling").grid(row=7, column=0,
sticky=W, padx=5, pady=5)

        self.txtSa = Entry(mainFrame)
        self.txtSa.grid(row=0, column=1, padx=5, pady=5)
        self.txtSb = Entry(mainFrame)
        self.txtSb.grid(row=1, column=1, padx=5, pady=5)
        self.txtSc = Entry(mainFrame)
        self.txtSc.grid(row=2, column=1, padx=5, pady=5)
        self.txtSd = Entry(mainFrame)
        self.txtSd.grid(row=3, column=1, padx=5, pady=5)
        self.txtTinggi = Entry(mainFrame)
        self.txtTinggi.grid(row=4, column=1, padx=5, pady=5)

        self.txtLuas = Entry(mainFrame)
        self.txtLuas.grid(row=6, column=1, padx=5, pady=5)
        self.txtKeliling = Entry(mainFrame)
        self.txtKeliling.grid(row=7, column=1, padx=5, pady=5)

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

    def onHitung(self, event=None):
        Sa = int(self.txtSa.get())
        Sb = int(self.txtSb.get())
        Sc = int(self.txtSc.get())
        Sd = int(self.txtSd.get())
        T= int(self.txtTinggi.get())
        trapesium = Trapesium(Sa, Sb, Sc, Sd, T)
```

```
            luas = trapesium.hitung_luas()
            keliling = trapesium.hitung_keliling()
            self.txtLuas.delete(0, END)
            self.txtLuas.insert(END, str(luas))
            self.txtKeliling.delete(0,END)
            self.txtKeliling.insert(END,str(keliling))

        def onKeluar(self, event=None):
            self.parent.destroy()

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

Hasil Program Trapesium :



6. Layang-layang

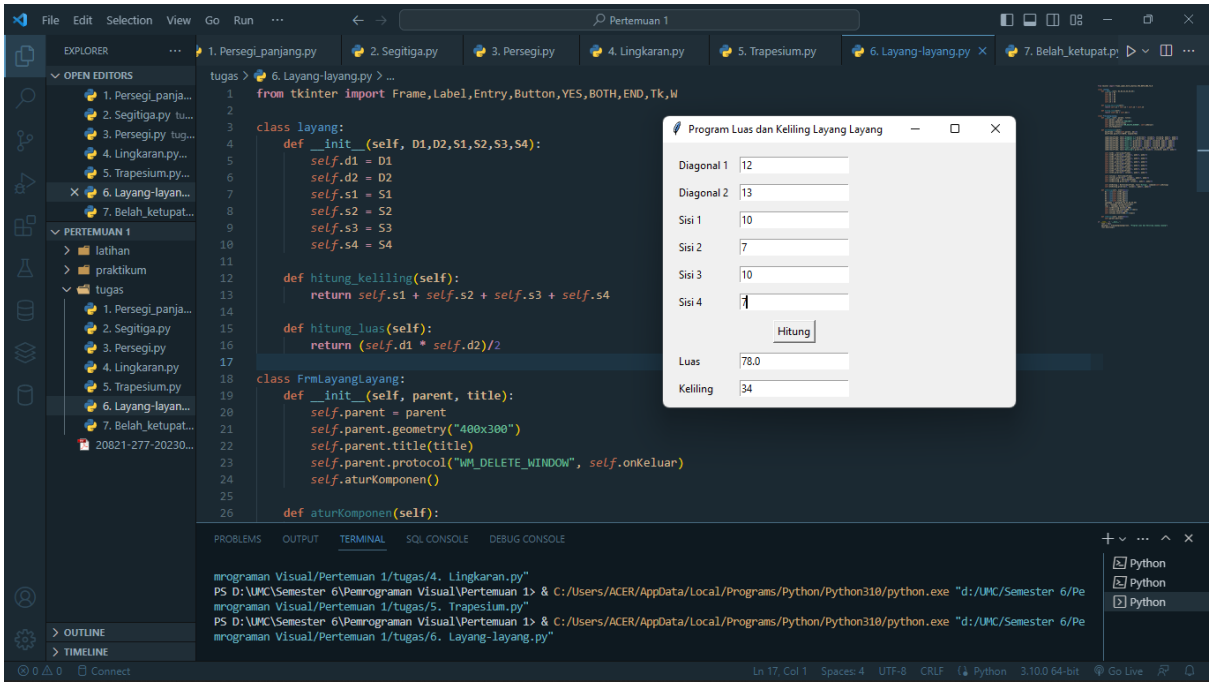
Source code :

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

class layang:
    def __init__(self, D1,D2,S1,S2,S3,S4):
        self.d1 = D1
        self.d2 = D2
        self.s1 = S1
        self.s2 = S2
        self.s3 = S3
        self.s4 = S4

    def hitung_keliling(self):
        return self.s1 + self.s2 + self.s3 + self.s4

    def hitung_luas(self):
        return (self.d1 * self.d2)/2

class FrmLayangLayang:
    def __init__(self, parent, title):
        self.parent = parent
        self.parent.geometry("400x300")
        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)

        Label(mainFrame, text='Diagonal 1').grid(row=0, column=0,
sticky=W, padx=5, pady=5)
        Label(mainFrame, text="Diagonal 2").grid(row=1, column=0,
sticky=W, padx=5, pady=5)
```

```
        Label(mainFrame, text="Sisi 1").grid(row=2, column=0, sticky=W,
padx=5, pady=5)
        Label(mainFrame, text="Sisi 2").grid(row=3, column=0, sticky=W,
padx=5, pady=5)
        Label(mainFrame, text="Sisi 3").grid(row=4, column=0, sticky=W,
padx=5, pady=5)
        Label(mainFrame, text="Sisi 4").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)

        self.txtD1 = Entry(mainFrame)
        self.txtD1.grid(row=0, column=1, padx=5, pady=5)
        self.txtD2 = Entry(mainFrame)
        self.txtD2.grid(row=1, column=1, padx=5, pady=5)
        self.txtS1 = Entry(mainFrame)
        self.txtS1.grid(row=2, column=1, padx=5, pady=5)
        self.txtS2 = Entry(mainFrame)
        self.txtS2.grid(row=3, column=1, padx=5, pady=5)
        self.txtS3 = Entry(mainFrame)
        self.txtS3.grid(row=4, column=1, padx=5, pady=5)
        self.txtS4 = Entry(mainFrame)
        self.txtS4.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)

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

    def onHitung(self, event=None):
        D1 = int(self.txtD1.get())
```

```
        D2 = int(self.txtD2.get())
        S1 = int(self.txtS1.get())
        S2 = int(self.txtS2.get())
        S3 = int(self.txtS3.get())
        S4 = int(self.txtS4.get())
        layangan = layang(D1,D2,S1,S2,S3,S4)
        kel = layangan.hitung_keliling()
        luas = layangan.hitung_luas()
        self.txtKeliling.delete(0,END)
        self.txtKeliling.insert(END,str(kel))
        self.txtLuas.delete(0,END)
        self.txtLuas.insert(END,str(luas))

    def onKeluar(self, event=None):
        self.parent.destroy()

if __name__ == '__main__':
    root = Tk()
    aplikasi = FrmLayangLayang(root, "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 ketupat:
    def __init__(self, d1, d2, S):
        self.diag1 = d1
        self.diag2 = d2
        self.s = S

    def hitung_luas(self):
        return (self.diag1 * self.diag2)/2

    def hitung_keliling(self):
        return self.s + self.s + self.s + self.s

class FrmBelahKetupat:
    def __init__(self, parent, title):
        self.parent = parent
        self.parent.geometry("400x250")
        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)

        Label(mainFrame, text="Diagonal 1:" ).grid(row=0, column=0,
sticky=W, padx=5, pady=5)
        Label(mainFrame, text="Diagonal 2:").grid(row=1, column=0,
sticky=W, padx=5, pady=5)
        Label(mainFrame, text="Sisi:").grid(row=2, 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)

        self.txtd1 = Entry(mainFrame)
        self.txtd1.grid(row=0, column=1, padx=5, pady=5)
        self.txtd2 = Entry(mainFrame)
        self.txtd2.grid(row=1, column=1, padx=5, pady=5)
        self.txtsisi = Entry(mainFrame)
        self.txtsisi.grid(row=2, 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)

        self.btnHitung = Button(mainFrame, text='Hitung',
command=self.onHitung)
        self.btnHitung.grid(row=3, column=1, padx=5, pady=5)

    def onHitung(self, event=None):
        d1 = int(self.txtd1.get())
        d2 = int(self.txtd2.get())
        S = int(self.txtsisi.get())
        belket = ketupat(d1,d2,S)
        keliling = belket.hitung_keliling()
        luas = belket.hitung_luas()
        self.txtLuas.delete(0,END)
        self.txtLuas.insert(END,str(luas))
        self.txtKeliling.delete(0,END)
        self.txtKeliling.insert(END,str(keliling))

    def onKeluar(self, event=None):
        self.parent.destroy()

if __name__ == '__main__':
    root = Tk()
```

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

Hasil Program Belah ketupat :