LAPORAN PRAKTIKUM

PEMROGRAMAN VISUAL

2023

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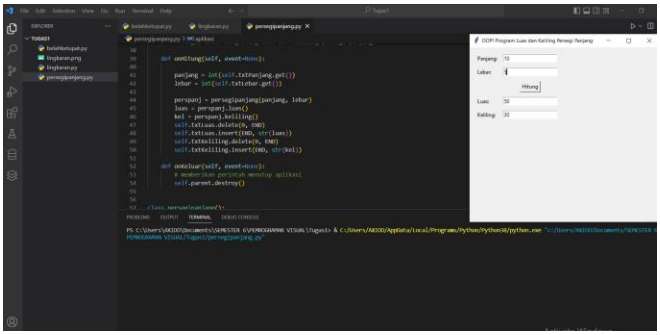
Aplikasi perhitungan menggunakan konsep Object Oriented Programming (OOP)

1. PERSEGI PANJANG
   Source Code:

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


class FrmPersegi:
    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='Panjang:').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.onHitung)
```

```
        self.btnHitung.grid(row=2, column=1, padx=5, pady=5)
        # fungsi untuk menghitung luas dan keliling persegi panjang

    def onHitung(self, event=None):

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

        perspanj = persegipanjang(panjang, lebar)
        luas = perspanj.luas()
        kel = perspanj.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 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 = FrmPersegi(root, "OOP! Program Luas dan Keliling Persegi Panjang")
    root.mainloop()
```

Hasil :



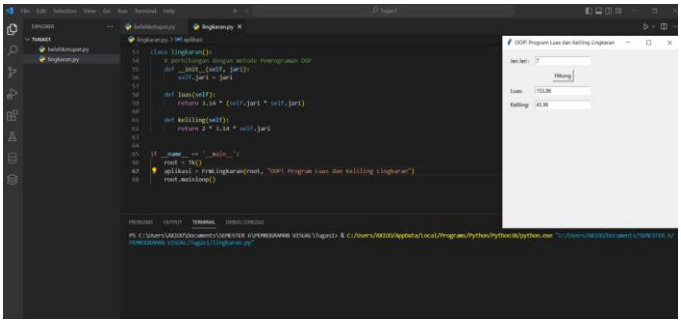
2. LINGKARAN

Source Code :

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


class FrmLingkaran:
    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='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 persegi panjang

    def onHitung(self, event=None):
        # perhitungan dengan metode Pemrograman Terstruktur
        jari = float(self.txtjari.get())

        bunder = lingkaran(jari)
        luas = bunder.luas()
        kel = bunder.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, jari):
        self.jari = jari

    def luas(self):
        return 3.14 * (self.jari * self.jari)

    def keliling(self):
        return 2 * 3.14 * self.jari


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

Hasil :



3. SEGITIGA

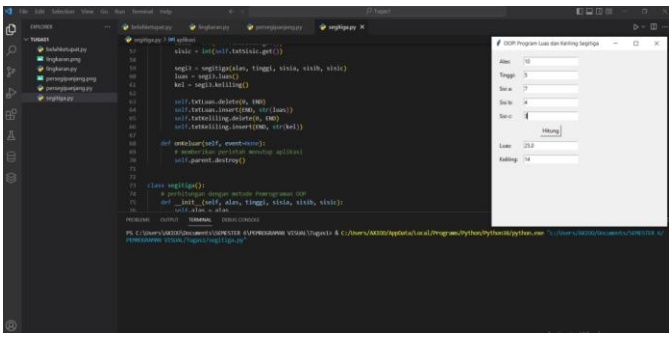
Source Code :

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


class FrmSegitiga:
    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='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 a:").grid(row=2, column=0,
                                     sticky=W, padx=5, pady=5)
        Label(mainFrame, text="Sisi b:").grid(row=3, column=0,
                                     sticky=W, padx=5, pady=5)
        Label(mainFrame, text="Sisi c:").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)
    # 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.txtSisia = Entry(mainFrame)
    self.txtSisia.grid(row=2, column=1, padx=5, pady=5)
    self.txtSisib = Entry(mainFrame)
    self.txtSisib.grid(row=3, column=1, padx=5, pady=5)
    self.txtSisic = Entry(mainFrame)
    self.txtSisic.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)
    # Pasang Button
    self.btnHitung = Button(mainFrame, text='Hitung',
                        command=self.onHitung)
    self.btnHitung.grid(row=5, column=1, padx=5, pady=5)
    # fungsi untuk menghitung luas dan keliling persegi panjang

def onHitung(self, event=None):
    # perhitungan dengan metode Pemrograman Terstruktur
    alas = int(self.txtAlas.get())
    tinggi = int(self.txtTinggi.get())
    sisia = int(self.txtSisia.get())
    sisib = int(self.txtSisib.get())
    sisic = int(self.txtSisic.get())

    segi3 = segitiga(alas, tinggi, sisia, sisib, sisic)
    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 onKeluar(self, event=None):
        # memberikan perintah menutup aplikasi
        self.parent.destroy()


class segitiga():
    # perhitungan dengan metode Pemrograman OOP
    def __init__(self, alas, tinggi, sisia, sisib, sisic):
        self.alas = alas
        self.tinggi = tinggi
        self.sisia = sisia
        self.sisib = sisib
        self.sisic = sisic

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

    def keliling(self):
        return self.sisia + self.sisib + self.sisic


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

Hasil :



4. BELAH KETUPAT

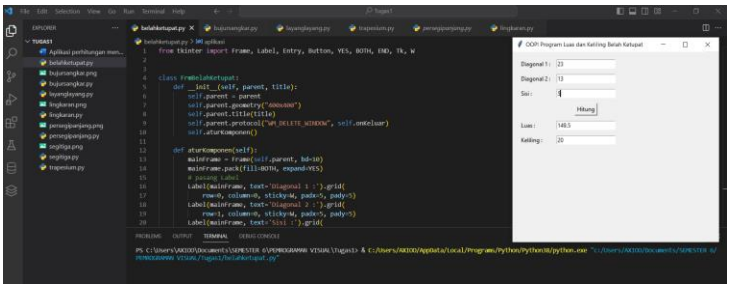
Source Code :

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


class FrmBelahKetupat:
    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=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)
        # pasang textbox
        self.txtdiagonal1 = Entry(mainFrame)
        self.txtdiagonal1.grid(row=0, column=1, padx=5, pady=5)
        self.txtdiagonal2 = Entry(mainFrame)
        self.txtdiagonal2.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)
        # Pasang Button
        self.btnHitung = Button(mainFrame, text='Hitung',
```

```
                                command=self.onHitung)
        self.btnHitung.grid(row=3, column=1, padx=5, pady=5)
        # fungsi untuk menghitung luas dan keliling persegi panjang

    def onHitung(self, event=None):
        # perhitungan dengan metode Pemrograman Terstruktur
        d1 = int(self.txtdiagonal1.get())
        d2 = int(self.txtdiagonal2.get())
        sisi = int(self.txtsisi.get())

        belah = belahketupat(d1, d2, sisi)
        luas = belah.luas()
        kel = belah.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 belahketupat():
    # perhitungan dengan metode Pemrograman OOP
    def __init__(self, d1, d2, sisi):
        self.d1 = d1
        self.d2 = d2
        self.sisi = sisi

    def luas(self):
        return 1/2 * (self.d1 * self.d2)

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


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

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

Hasil :



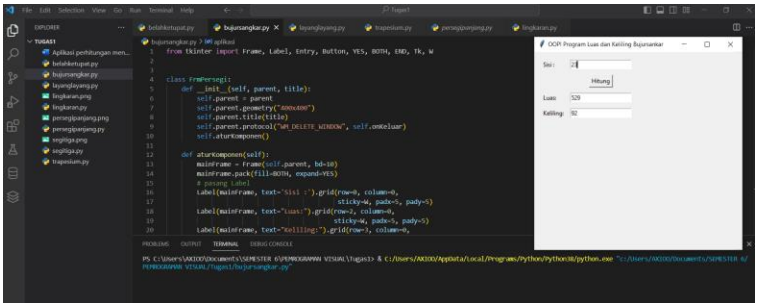
5. PERSEGI / BUJUR SANGKAR

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("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 :').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.onHitung)
        self.btnHitung.grid(row=1, column=1, padx=5, pady=5)
        # fungsi untuk menghitung luas dan keliling persegi panjang

    def onHitung(self, event=None):
        # perhitungan dengan metode Pemrograman Terstruktur
        sisi = int(self.txtSisi.get())

        perseg = persegi(sisi)
        luas = perseg.luas()
        kel = perseg.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 persegi():
    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 Bujursankar")
    root.mainloop()
```

Hasil :



6. LAYANG-LAYANG

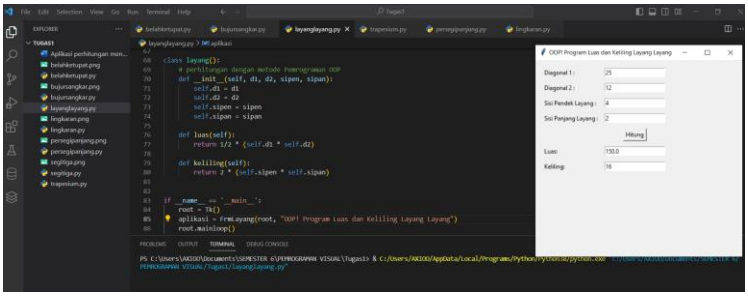
Source Code :

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


class FrmLayang:
    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=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 Pendek Layang :').grid(row=2, column=0,
                                            sticky=W, padx=5, pady=5)
        Label(mainFrame, text='Sisi Panjang Layang :').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.txtdiagonal1 = Entry(mainFrame)
```

```
        self.txtdiagonal1.grid(row=0, column=1, padx=5, pady=5)
        self.txtdiagonal2 = Entry(mainFrame)
        self.txtdiagonal2.grid(row=1, column=1, padx=5, pady=5)
        self.txtsisipen = Entry(mainFrame)
        self.txtsisipen.grid(row=2, column=1, padx=5, pady=5)
        self.txtsisipan = Entry(mainFrame)
        self.txtsisipan.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 persegi panjang

    def onHitung(self, event=None):
        # perhitungan dengan metode Pemrograman Terstruktur
        d1 = int(self.txtdiagonal1.get())
        d2 = int(self.txtdiagonal2.get())
        sipen = int(self.txtsisipen.get())
        sipan = int(self.txtsisipan.get())

        lyg = layang(d1, d2, sipen, sipan)
        luas = lyg.luas()
        kel = lyg.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():
    # perhitungan dengan metode Pemrograman OOP
```

```
    def __init__(self, d1, d2, sipen, sipan):
        self.d1 = d1
        self.d2 = d2
        self.sipen = sipen
        self.sipan = sipan

    def luas(self):
        return 1/2 * (self.d1 * self.d2)

    def keliling(self):
        return 2 * (self.sipen * self.sipan)


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

Hasil :



7. 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='Alas a :').grid(
   row=0, column=0, sticky=W, padx=5, pady=5)
Label(mainFrame, text='Alas b :').grid(
   row=1, column=0, sticky=W, padx=5, pady=5)
Label(mainFrame, text='Tinggi :').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.txtalasa = Entry(mainFrame)
self.txtalasa.grid(row=0, column=1, padx=5, pady=5)
self.txtalasb = Entry(mainFrame)
self.txtalasb.grid(row=1, column=1, padx=5, pady=5)
self.txttinggi = Entry(mainFrame)
self.txttinggi.grid(row=2, column=1, padx=5, pady=5)
self.txtsisia = Entry(mainFrame)
self.txtsisia.grid(row=3, column=1, padx=5, pady=5)
self.txtsisib = Entry(mainFrame)
self.txtsisib.grid(row=4, column=1, padx=5, pady=5)
self.txtsisic = Entry(mainFrame)
self.txtsisic.grid(row=5, column=1, padx=5, pady=5)
self.txtsisid = Entry(mainFrame)
self.txtsisid.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 persegi panjang

    def onHitung(self, event=None):
        # perhitungan dengan metode Pemrograman Terstruktur
        alasa = int(self.txtalasa.get())
        alasb = int(self.txtalasb.get())
        tinggi = int(self.txttinggi.get())
        sisia = int(self.txtsisia.get())
        sisib = int(self.txtsisib.get())
        sisic = int(self.txtsisic.get())
        sisid = int(self.txtsisid.get())

        trapes = trapesium(alasa, alasb, tinggi, sisia, sisib, sisic, sisid)
        luas = trapes.luas()
        kel = trapes.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, alasa, alasb, tinggi, sisia, sisib, sisic, sisid):
        self.alasa = alasa
        self.alasb = alasb
        self.tinggi = tinggi
        self.sisia = sisia
        self.sisib = sisib
        self.sisic = sisic
        self.sisid = sisid
```

```
    def luas(self):
        return 1/2 * (self.alasa + self.alasb) * self.tinggi

    def keliling(self):
        return self.sisia + self.sisib + self.sisic + self.sisid


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

Hasil :