

In [1]:

```
def npnp():
    def npnkaydet():
        dosya1 = open('nnp.txt', 'w')
        satir1 = "Ib={}, Ic={}, Ie={}, Vce={}, Vcb={},".format(ib,ic,ie,vce,vcb)
        dosya1.write(satir1)
        dosya1.close()

    def npnislem():

        from tkinter import messagebox
        global ib
        global ic
        global ie
        global vce
        global vcb

        try:
            voltaj1= float(voltage1.get())
            voltaj2= float(voltage2.get())
            res1= float(direnc1.get())
            res2= float(direnc2.get())
            voltajbe= float(voltagebe.get())
            betadeger= float(beta.get())

            ib=((voltaj2-voltajbe)/res2)
            ibsonuc=Label(nnpncere, text=ib,font=("Arial",10),bg="black",fg="white")
            ibsonuc.place(x=295,y=180)
            ic=betadeger*ib
            icsonuc=Label(nnpncere, text=ic,font=("Arial",10),bg="black",fg="white")
            icsonuc.place(x=370,y=100)
            ie=ib+ic
            iesonuc=Label(nnpncere, text=ie,font=("Arial",10),bg="black",fg="white")
            iesonuc.place(x=450,y=320)
            vdirenc1=ic*res1
            vce=voltaj1-vdirenc1
            vcesonuc=Label(nnpncere, text=vce,font=("Arial",10),bg="black",fg="white")
            vcesonuc.place(x=490,y=220)
            vcb=vce-voltajbe
            vcbsonuc=Label(nnpncere, text=vcb,font=("Arial",10),bg="black",fg="white")
            vcbsonuc.place(x=370,y=140)
        except ValueError:
            messagebox.showinfo(title="UYARI", message="SADECE SAYI GİRİNİZ")

    nnpncere=Toplevel(ana)
    nnpncere.title("NPN")
    nnpncere.geometry("702x459")
    nnpncere.configure(bg="pale green")

    devre=PhotoImage(file="devre1.png")
    cerceve=Label(nnpncere,image=devre)
    cerceve.image=devre
    cerceve.place(x=0,y=0)

    etiket1=Label(nnpncere, text="V1",font=("Arial",10),bg="black",fg="white")
    voltage1=Entry(nnpncere,bg="black",fg="white")
    etiket2=Label(nnpncere, text="V2",font=("Arial",10),bg="black",fg="white")
    voltage2=Entry(nnpncere,bg="black",fg="white")
    etiket3=Label(nnpncere, text="R1",font=("Arial",10),bg="black",fg="white")
    direnc1=Entry(nnpncere,bg="black",fg="white")
```

```

etiket4=Label(npn pencere, text="R2",font=("Arial",10),bg="black",fg="white")
direnc2=Entry(npn pencere,bg="black",fg="white")
etiket5=Label(npn pencere, text="Vbe",font=("Arial",10),bg="black",fg="white")
voltagebe=Entry(npn pencere,bg="black",fg="white")
etiket6=Label(npn pencere, text="β",font=("Arial",10),bg="black",fg="white")
beta=Entry(npn pencere,bg="black",fg="white")
etiket7=Label(npn pencere, text="SİYAH ALANA DEĞERLERİ GİRİNİZ!",font=("Arial",10

voltage1.place(x=580,y=80)
voltage2.place(x=20,y=330)
direnc1.place(x=425,y=20)
direnc2.place(x=150,y=180)
voltagebe.place(x=250,y=270)
beta.place(x=450,y=180)
etiket1.place(x=640,y=60)
etiket2.place(x=50,yy=300)
etiket3.place(x=400,y=20)
etiket4.place(x=120,y=180)
etiket5.place(x=220,y=270)
etiket6.place(x=435,y=180)
etiket7.place(x=30,yy=30)

ib_text=Label(npn pencere, text="Ib= ",font=("Arial",10),bg="black",fg="white")
ic_text=Label(npn pencere, text="Ic= ",font=("Arial",10),bg="black",fg="white")
ie_text=Label(npn pencere, text="Ie= ",font=("Arial",10),bg="black",fg="white")
vce_text=Label(npn pencere, text="Vce= ",font=("Arial",10),bg="black",fg="white")
vcb_text=Label(npn pencere, text="Vcb= ",font=("Arial",10),bg="black",fg="white")
ib_text.place(x=275,y=180)
ic_text.place(x=350,y=100)
ie_text.place(x=430,y=320)
vce_text.place(x=460,y=220)
vcb_text.place(x=330,y=140)

npnhesaplab=Button(npn pencere,text="HESAPLA",command=npnislem,font=("Arial",15),
npnhesaplab.place(x=500,y=320)
npnkaydet=Button(npn pencere,text="KAYDET",command=npnkaydet,font=("Arial",15),bg
npnkaydet.place(x=500,y=370)

```

```
def pnpp():
```

```
def npnkaydet():
```

```

dosya2 = open('pnp.txt', 'w')
satir2 = "Ib={}, Ic={}, Ie={}, Ve={}, Vc={}, b={}".format(ibp,icp,iep,vep,vcp)
dosya2.write(satir2)
dosya2.close()

```

```
def npnislem():
```

```

from tkinter import messagebox
global ibp
global icp
global iep
global vep
global vcp
global beta1
try:
    vccv= float(vcc.get())
    rd1= float(resistor1.get())
    rd2= float(resistor2.get())
    rd3= float(resistor3.get())
    vbv= float(vb.get())

    vep=vbv+0.7
    vcp=vbv+0.5
    iep=(vccv-vep)/rd1

```

```

ibp=vbv/rd2
icp=(vcp+vccv)/rd3
beta1=icp/ibp

ic_s=Label(pnppencere, text=icp,font=("Arial",10),bg="black",fg="white")
ie_s=Label(pnppencere, text=iep,font=("Arial",10),bg="black",fg="white")
ib_s=Label(pnppencere, text=ibp,font=("Arial",10),bg="black",fg="white")
ve_s=Label(pnppencere, text=vcp,font=("Arial",10),bg="black",fg="white")
vc_s=Label(pnppencere, text=vcp,font=("Arial",10),bg="black",fg="white")
beta_s=Label(pnppencere, text=beta1,font=("Arial",10),bg="black",fg="white")
ic_s.place(x=300,y=370)
ie_s.place(x=280,y=120)
ib_s.place(x=80,y=250)
ve_s.place(x=470,y=150)
vc_s.place(x=470,y=250)
beta_s.place(x=470,y=200)

if(beta1>30):
    sonuc=Label(pnppencere, text="Transistörün  $\beta$  değeri belirlenenen küç
    sonuc1=Label(pnppencere, text="üstünde olduğundan doyma bölgesinde ç
    sonuc.place(x=0,y=40)
    sonuc1.place(x=0,y=60)

else:
    sonuc=Label(pnppencere, text="Transistörün  $\beta$  değeri belirlenenen küç
    sonuc1=Label(pnppencere, text="altında olduğundan doyma bölgesinde ç
    sonuc.place(x=0,y=40)
    sonuc1.place(x=0,y=60)
except ValueError:
    messagebox.showinfo(title="UYARI", message="SADECE SAYI GİRİNİZ")

pnppencere=Toplevel(ana)
pnppencere.title("PNP")
pnppencere.geometry("707x484")
pnppencere.configure(bg="pale green")

devre2=PhotoImage(file="devre2.png")
cerceve2=Label(pnppencere,image=devre2)
cerceve2.image=devre2
cerceve2.place(x=0,y=0)

info=Label(pnppencere, text="Yanda gösterilen devrede transistörün  $\beta$ 'sının en kü
info.place(x=0,y=0)
info=Label(pnppencere, text="Vbe = 0.7 Vecsat = 0.2",font=("Arial",10),bg="bla
info.place(x=0,y=20)

vcc_g=Label(pnppencere, text="V",font=("Arial",10),bg="black",fg="white")
vcc=Entry(pnppencere,bg="black",fg="white")
r1_g=Label(pnppencere, text="R1",font=("Arial",10),bg="black",fg="white")
resistor1=Entry(pnppencere,bg="black",fg="white")
r2_g=Label(pnppencere, text="R2",font=("Arial",10),bg="black",fg="white")
resistor2=Entry(pnppencere,bg="black",fg="white")
r3_g=Label(pnppencere, text="R3",font=("Arial",10),bg="black",fg="white")
resistor3=Entry(pnppencere,bg="black",fg="white")
vb=Entry(pnppencere,bg="black",fg="white")
vb.place(x=260,y=270)
vcc_g.place(x=430,y=35)
r3_g.place(x=430,y=300)
r1_g.place(x=420,y=90)
r2_g.place(x=170,y=180)
vcc.place(x=460,y=35)
resistor3.place(x=460,y=300)
resistor1.place(x=455,y=90)

```

```

resistor2.place(x=200,y=180)

ib_t=Label(pnppencere, text="Ib= ",font=("Arial",10),bg="black",fg="white")
ic_t=Label(pnppencere, text="Ic= ",font=("Arial",10),bg="black",fg="white")
ie_t=Label(pnppencere, text="Ie= ",font=("Arial",10),bg="black",fg="white")
ve_t=Label(pnppencere, text="Ve= ",font=("Arial",10),bg="black",fg="white")
vb_t=Label(pnppencere, text="Vb",font=("Arial",10),bg="black",fg="white")
vc_t=Label(pnppencere, text="Vc= ",font=("Arial",10),bg="black",fg="white")
beta_t=Label(pnppencere, text="β= ",font=("Arial",10),bg="black",fg="white")
ib_t.place(x=50,y=250)
ic_t.place(x=280,y=370)
ie_t.place(x=250,y=120)
ve_t.place(x=440,y=150)
vb_t.place(x=230,y=270)
vc_t.place(x=440,y=250)
beta_t.place(x=440,y=200)

pnphesaplab=Button(pnppencere,text="HESAPLA",command=pnpislem,font=("Arial",15),
pnphesaplab.place(x=500,y=350)
pnpkaydet1=Button(pnppencere,text="KAYDET",command=pnpkaydet,font=("Arial",15),b
pnpkaydet1.place(x=500,y=400)

from tkinter import *
ana=Tk()
ana.geometry("400x500")
ana.title("NPN PNP HESAP")
ana.configure(bg="orange red")

baslik=Label(ana, text="Yapmak istediğiniz işlemi seçiniz!",font=("Arial",15),bg="bl
baslik.place(x=50,y=50)

nnpncereb=Button(ana, text="NPN",font=("Arial",50),bg="pink",command=nnpnp);

nnpncereb.place(x=100,y=140)

pnppncereb=Button(ana, text="PNP",font=("Arial",50),bg="pink",command=pnppp);

pnppncereb.place(x=100,y=280)

ana.mainloop()

```

In []: