DA-DA
BUCK KONVERTÖRÜN
PI ve BULANIK DENETİMİ

```
#include<stdio.h>
#include<conio.h>
#include<math.h>
#include<stdlib.h>
#define h 0.000001

main()
{
 float t,tmax,t1,tp=0.0001,i,vc,d;
 float R=5,L=0.03,C=0.0001;
 float V,Vmax=50;

 float gp=1,gi=10000;
 float vref=25;
 float e,eo;
```

```
FILE *fptr1;
fptr1=fopen("pidcdc.dat","w");

printf("Simulasyon zamanini girin tmax-->:");
scanf("%f",&tmax);

printf("\nProgram Calisiyor.... LUTFEN BEKLEYIN \n");

for(t=0;t<tmax;t=t+tp)
  {
```

```
/********************** PI ***************************/
     //if(t>.5) vref=5;
     if(t>.5) R=2;

    e=vref-vc;
    d=d+gp*(e-eo)+gi*e*h;
    eo=e;
    /*--------- LIMITER ----------*/
    if (d>1)  d=1;
    if (d<0)  d=0;
    /*--------------------------*/
     V=Vmax*d;
    /*****************************************************/
```

```
t1=0;
    for(t1=0;t1<tp;t1=t1+h)
    {
     if(t1<=(tp*d))
           {
            i=i+h*((-1/L)*vc + (1/L)*V);
            vc=vc+h*((1/C)*i -  (1/(R*C))*vc);
           }
     else
          {
           i=i+h*((-1/L)*vc);
           vc=vc+h*((1/C)*i - (1/(R*C))*vc);
          }
     }
         fprintf(fptr1,"%4.4f\n ",vc);
  }
}
```