



YILDIZ TEKNİK ÜNİVERSİTESİ

BİLGİSAYAR MÜHENDİSLİĞİ BÖLÜMÜ

SAYISAL ANALİZ

DÖNEM PROJE RAPORU

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Bisection Metodu

```
#include<stdio.h>
```

```
#include<math.h>
```

```
float bisection(float ,float ,float );
```

```
float equat(float ,int [],int );
```

```
int main(){
```

```
    float x1,x2,kok,mistake;
```

```
    printf("Enter the x1 that is value of y1:");
```

```
    scanf("%f",&x1);
```

```
    printf("Enter the x2 that is value of y2:");
```

```
    scanf("%f",&x2);
```

```
    printf("Enter the mistake:");
```

```
    scanf("%f",&mistake);
```

```
    kok=bisection(x1,x2,mistake);
```

```
    printf("X~~%f",kok);
```

```
    return 0;
```

```
}
```

```
float bisection(float a,float b,float k){
```

```
    float Hata=k+1,fa,fb,fc,c;
```

```
    int derece,kat[100],i,iteration=0;
```

```
    printf("Denklemin derecesini giriniz:");
```

```
    scanf("%d",&derece);
```

```

for(i=derece;i>=0;i--){
    printf("Enter x^%d. parameter of term:",i);
    scanf("%d",&kat[i]);
}
fa=equat(a,kat,derece);
fb=equat(b,kat,derece);
if((fa*fb)>0){
    printf("You entered wrong index!");
    return -1;
}
else if(fa==0){
    return a;
}
else if(fb==0){
    return b;
}
while((fa*fb)<0 && Hata>k){
    iteration++;
    Hata=fabs(a-b)/pow(2,iteration);
    //Hata=fabs(b-a);
    printf("Mistake:%f\n",Hata);
    c=(a+b)/2;
    fc=equat(c,kat,derece);
    if(fa*fc<0){
        b=c;
        fb=fc;
    }
}

```

```

        else if(fa*fc>0){
            a=c;
            fa=fc;
        }
        else{
            printf("Iteration:%d\n",iteration);
            return c;
        }
    }
    printf("Iteration:%d\n",iteration);
    if(Hata<=k){
        return c;
    }
}

float equat(float x,int kat[],int derece){
    float denklem=0;
    int i;
    for(i=derece;i>=0;i--){
        denklem=denklem+kat[i]*pow(x,i);
    }
    return denklem;
}

```

Bisection Ekran Çıktısı

$$x^3-7x^2+14x-6=0$$

```
C:\Mesai\src\Documents\CE 1.5\F\CE 1.5\src\Ana\2\Proj\Bisection.exe
Enter the x1 that is value of y1:0
Enter the x2 that is value of y2:1
Enter the mistake:0.01
Denklemin derecesini giriniz:3
Enter x^3. parameter of term:1
Enter x^2. parameter of term:-7
Enter x^1. parameter of term:14
Enter x^0. parameter of term:-6
Mistake:0.500000
Mistake:0.125000
Mistake:0.031250
Mistake:0.007813
Iteration:4
X~~0.562500
-----
Process exited after 45.92 seconds with return value 0
Press any key to continue . . .
```

$$x^2+2x-15=0$$

```
C:\Mesai\src\Documents\CE 1.5\F\CE 1.5\src\Ana\2\Proj\Bisection.exe
Enter the x1 that is value of y1:-5
Enter the x2 that is value of y2:3
Enter the mistake:0.001
Denklemin derecesini giriniz:2
Enter x^2. parameter of term:1
Enter x^1. parameter of term:2
Enter x^0. parameter of term:-15
X~~-5.000000
-----
Process exited after 14.27 seconds with return value 0
Press any key to continue . . .
```

Regula-Falsi Metodu

```
#include<stdio.h>
```

```
#include<math.h>
```

```
float regula_falsi(float a,float b,float k);
```

```
float equat(float ,int [],int );
```

```
int main(){
```

```
    float x1,x2,kok,mistake;
```

```
    printf("Enter the x1 that is value of y1:");
```

```
    scanf("%f",&x1);
```

```
    printf("Enter the x2 that is value of y2:");
```

```
    scanf("%f",&x2);
```

```
    printf("Enter the mistake:");
```

```
    scanf("%f",&mistake);
```

```
    kok=regula_falsi(x1,x2,mistake);
```

```
    printf("X~~~%f",kok);
```

```
    return 0;
```

```
}
```

```
float regula_falsi(float a,float b,float k){
```

```
    float Hata=k+1,fa,fb,fc,c;
```

```
    int derece,kat[100],i,iteration=0;
```

```
    printf("Denklemin derecesini giriniz:");
```

```

scanf("%d",&derece);
for(i=derece;i>=0;i--){
    printf("Enter x^%d. parameter of term:",i);
    scanf("%d",&kat[i]);
}
fa=equat(a,kat,derece);
fb=equat(b,kat,derece);
if((fa*fb)>=0){
    printf("You entered wrong index!---");
    return -1;
}
while((fa*fb)<0 && Hata>k){
    iteration++;
    Hata=fabs(b-a)/pow(2,iteration);
    printf("Mistake:%f\n",Hata);
    c=(b*fa-a*fb)/(fa-fb);
    fc=equat(c,kat,derece);
    if(fa*fc<0){
        b=c;
        fb=fc;
    }
    else if(fa*fc>0){
        a=c;
        fa=fc;
    }
    else{
        printf("Iteration:%d\n",iteration);
    }
}

```



```

        return c;
    }
}
if(Hata<=k){
    return c;
}
}

float equat(float x,int kat[],int derece){
    float denklem=0;
    int i;
    for(i=derece;i>=0;i--){
        denklem=denklem+kat[i]*pow(x,i);
    }
    return denklem;
}

```

Newton-Raphson Metodu

```

#include<stdio.h>
#include<math.h>
float newton_raphson(float a,float k);
float derivative(float x,int kat[],int derece);
float equat(float x,int kat[],int derece);
int main(){
    float x1,x2,kok,initiate,mistake;
    char join;

```

```
printf("Enter the x1 that is value of y1:");
scanf("%f",&x1);
printf("Enter the x2 that is value of y2:");
scanf("%f",&x2);
printf("Do you want to assign an initial value:(Y/N)");
scanf(" %c",&join);
```

```
printf("Enter the mistake:");
scanf("%f",&mistake);
if(join=='Y' || join=='y'){
    printf("Initial Value:");
    scanf("%f",&initiate);
    kok=newton_raphson(initiate,mistake);
}
else if(x1<x2)
    kok=newton_raphson(x1,mistake);
else
    kok=newton_raphson(x2,mistake);
printf("X~~~%f",kok);
return 0;
}

float newton_raphson(float a,float k){
    float Hata=k+1,fa,ga,c;
    int derece,kat[100],i;
    printf("Denklemin derecesini giriniz:");
    scanf("%d",&derece);
```

```

for(i=derece;i>=0;i--){
    printf("Enter x^%d. parameter of term:",i);
    scanf("%d",&kat[i]);
}
fa=equat(a,kat,derece);
ga=derivative(a,kat,derece);
if(ga==0){
    a+=k;
    ga=derivative(a,kat,derece);
}
printf("denklem=%f --- turev=%f\n",fa,ga);
while(Hata>k){
    c=a-(fa/ga);
    printf("C:%f\n",c);
    Hata=fabs(c-a);//x1-x0
    printf("Mistake:%f\n",Hata);
    a=c; //a=x1
    fa=equat(a,kat,derece);
    ga=derivative(a,kat,derece);
    if(ga==0){
        a+=k;
        ga=derivative(a,kat,derece);
    }
}
//printf("Iteration:%d\n",iteration);
if(Hata<=k){
    return c;
}

```

```

    }
}

float equat(float x,int kat[],int derece){
    float denklem=0,deriv=0;
    int i;
    for(i=derece;i>=0;i--){
        denklem=denklem+kat[i]*pow(x,i);
    }
    return denklem;
}

float derivative(float x,int kat[],int derece){
    float deriv=0;
    int i;
    for(i=derece;i>0;i--){
        deriv=deriv+(kat[i]*i*pow(x,i-1));
    }
    return deriv;
}

```

Matris Inversi

```

#include<stdio.h>

#define MAX 100

int main(){
    float matrix[MAX][MAX];
    int row,column,i,j;

```

```

printf("ROW LENGTH:");
scanf("%d",&row);
printf("COLUMN LENGTH:");
scanf("%d",&column);
scan(matrix,row,column);
for(i=0;i<row;i++){
    for(j=column;j<column*2;j++){
        if(i==(j-column)){
            matrix[i][j]=1;
        }
        else{
            matrix[i][j]=0;
        }
    }
}
print(matrix,row,column*2);
eliminasyon(matrix,row,column*2);
printf("Invers A matrix:\n");
for(i=0;i<row;i++){
    for(j=column;j<column*2;j++){
        printf("%-0.3f ",matrix[i][j]);
    }
    printf("\n");
}
}

```

```

void eliminasyon(float a[][MAX],int r,int c){

```

```

int i,j,p,k;
float hold,tmp;
i=0;
while(i<r){//1.satır
    p=i+1;
    while(a[i][i]==0 && p<r){
        for(k=0;k<c;k++){
            tmp=a[p][k];
            a[p][k]=a[i][k];
            a[i][k]=tmp;
        }
        p++;
    }
    hold=a[i][i];
    for(k=i;k<c;k++){
        a[i][k]/=hold;
    }
    for(j=0;j<r;j++){
        hold=a[j][i];
        if(j!=i){
            for(p=i;p<c;p++){
                a[j][p]=a[j][p]-(hold*a[i][p]);
            }
        }
        printf("\n");
    }
    print(a,r,c);
}

```

```

        i++;
    }
}

void print(float a[][MAX],int r,int c){
    int i,j;
    for(i=0;i<r;i++){
        for(j=0;j<c;j++){
            printf("%0.3f ",a[i][j]);
        }
        printf("\n");
    }
    printf("\n");
}

void scan(float a[][MAX],int r,int c){
    int i,j;
    for(i=0;i<r;i++){
        for(j=0;j<c;j++){
            printf("[%d][%d]=",i,j);
            scanf("%f",&a[i][j]);
        }
    }
}

```

Gauss Eleminasyon

```
#include<stdio.h>
#define MAX 100
int main(){
    float extcoefmatrix[MAX][MAX],variables[MAX]={0};
    int row,column,i;
    printf("Denklem sayisini giriniz:");
    scanf("%d",&row);
    printf("Degisken sayisini giriniz:");
    scanf("%d",&column);
    column++;
    scan(extcoefmatrix,row,column);
    print(extcoefmatrix,row,column);
    eliminasyon(extcoefmatrix,row,column);
    print(extcoefmatrix,row,column);
    variable(extcoefmatrix,variables,row,column);
    for(i=0;i<column-1;i++){
        printf("x%d= %0.3f\t",i+1,variables[i]);
    }
}

void eliminasyon(float a[][MAX],int r,int c){
    int i,j,p,k;
    float hold,tmp;
```



```

i=0;
while(i<r){//1.satır
    p=i+1;
    while(a[i][i]==0 && p<r){
        for(k=0;k<c;k++){
            tmp=a[p][k];
            a[p][k]=a[i][k];
            a[i][k]=tmp;
        }
        p++;
    }
    hold=a[i][i];
    for(k=i;k<c;k++){
        a[i][k]/=hold;
    }
    for(j=i+1;j<r;j++){
        hold=a[j][i];
        for(p=i;p<c;p++){
            a[j][p]=a[j][p]-(hold*a[i][p]);
        }
    }
    printf("\n\n\n");
    print(a,r,c);
    i++;
}
}

```

```

void variable(float a[][MAX],float arr[],int r,int c){
    int i,j;
    arr[c-2]=a[r-1][c-1];
    for(i=r-2;i>=0;i--){
        for(j=c-2;j>i;j--){
            arr[i]=arr[i]+(arr[j]*a[i][j]);
        }
        arr[i]=a[i][c-1]-arr[i];
    }
}

```

```

void print(float a[][MAX],int r,int c){
    int i,j;
    for(i=0;i<r;i++){
        for(j=0;j<c;j++){
            printf("%.2f ",a[i][j]);
        }
        printf("\n");
    }
    printf("\n");
}

```

```

void scan(float a[][MAX],int r,int c){
    int i,j;
    for(i=0;i<r;i++){
        printf("%d. denkleme giriniz:\n",(i+1));
        for(j=0;j<c;j++){

```

```

        if(j==c-1){
            printf("C%d'i giriniz:",i+1);
        }
        else
            printf("x%d:",j+1);
        scanf("%f",&a[i][j]);
    }
}
}

```

Gauss Seidal

```

#include<stdio.h>
#include<math.h>
#define MAX 100
int mistake(float hata[],float E,int n);
void max_diagonal(float a[][MAX],int m,int n,float c[]);
void find_root(float hata[],float a[][MAX],float x[],float c[],int m,int n,float E);
int main(){
    float variables[MAX],katsayi[MAX][MAX],result[MAX],delta[MAX];
    float hata;
    int row,column,i,j;
    printf("Degisken sayisini giriniz:");
    scanf("%d",&column);
    printf("Denklem sayisini giriniz:");

```

```

scanf("%d",&row);
for(i=0;i<row;i++){
    printf("%d.denklemin katsayilarini giriniz:",i+1);
    for(j=0;j<column;j++){
        scanf("%f",&katsayi[i][j]);
    }
    printf("%d.denklemin sabit terimini giriniz:",i+1);
    scanf("%f",&result[i]);
}
printf("Degiskenlerin ilk degerlerini giriniz:");
for(i=0;i<column;i++){
    scanf("%f",&variables[i]);
}
printf("Hatayi giriniz:");
scanf("%f",&hata);
for(i=0;i<column;i++){
    delta[i]=hata+1000;
}
max_diagonal(katsayi,row,column,result);
for(i=0;i<column;i++){
    printf("  x%d\t\t",i+1);
}
printf("\n");
do{
    find_root(delta,katsayi,variables,result,row,column,hata);
}while(mistake(delta,hata,column));
for(i=0;i<column;i++){

```

```

        printf("x%d = %0.2f\t",i+1,variables[i]);
    }
}

```

```

int mistake(float hata[],float E,int n){
    int i=0;
    while(hata[i]<=E && i<n){
        i++;
    }
    if(i==n){
        return 0;
    }
    return 1;
}

```

```

void find_root(float hata[],float a[][MAX],float x[],float c[],int m,int n,float
E){
    int i,j;
    float sum,hold;
    for(i=0;i<m;i++){
        sum=0;
        if(hata[i]>E){
            for(j=0;j<n;j++){
                if(i!=j){
                    sum+=(a[i][j]*x[j]);
                }
            }
        }
    }
}

```

```

        hold=x[i];
        x[i]=1.0*(c[i]-sum)/a[i][i];
        hata[i]=fabs(x[i]-hold);
        printf("%0.3f ",x[i]);
        printf("%0.3f\t",hata[i]);
    }
}
printf("\n");
}

```

```

void max_diagonal(float a[][MAX],int m,int n,float c[]){
    float prod=1,tmp;
    int max,i,j,k;
    for(i=0;i<n;i++){
        max=0;
        for(j=1;j<m;j++){
            if(fabs(a[j][i])>fabs(a[max][i])){
                max=j;
            }
        }
        tmp=c[i];
        c[i]=c[max];
        c[max]=tmp;
        for(k=0;k<n;k++){
            tmp=a[i][k];
            a[i][k]=a[max][k];
            a[max][k]=tmp;
        }
    }
}

```

```
    }  
  }  
}
```

Sayısal Türev

```
#include<stdio.h>  
#include<math.h>  
#define MAX 100  
float turev(float x,float h,float kat[],int mode,int mode2,int mertebe);  
float equation(float t,float kat[],int derece);  
int main(){  
    float kat[MAX]={0},value,h,deriv;  
    int mode,mertebe,i,mode2;  
    do{  
        printf("Turev hesaplama metodunu seciniz:\n(1)Ileri  
fark\n(2)Geri fark\n(3)Merkezi fark\nMode:");  
        scanf("%d",&mode);  
    }while(mode<1 || mode>3);  
    printf("Deger ve hassasiyet miktarini giriniz:");
```

```

scanf("%f%f",&value,&h);
deriv=turev(value,h,kat,mode,mode2,mertebe);
printf("TUREV:%0.4f",deriv);
}

```

```

float turev(float x,float h,float kat[],int mode,int mode2,int mertebe){
    float f1,fxi,fx0,fx1,fx2,fx3;
    int derece,i;
    printf("Derece:");
    scanf("%d",&derece);
    for(i=derece;i>=0;i--){
        printf("x^%d. terimin katsayisini giriniz:",i);
        scanf("%f",&kat[i]);
    }
    switch(mode){
        case 1://ileri fark
            fxi=equation(x+h,kat,derece);
            fx0=equation(x,kat,derece);
            f1=(fxi-fx0)/h*1.0;
            break;
        case 2:// geri fark
            fxi=equation(x-h,kat,derece);
            fx0=equation(x,kat,derece);
            f1=(fx0-fxi)/h*1.0;
            break;
        case 3:// merkezi fark
            fxi=equation(x+h,kat,derece);

```



```

        fx0=equation(x-h,kat,derece);
        f1=(fxi-fx0)/(h*2.0);
        break;
    default:
        printf("Mode is not correct.");
    }
    return f1;
}

```

```

float equation(float t,float kat[],int derece){
    int i;
    float denk=0;
    for(i=derece;i>=0;i--){
        denk+=(pow((double)t,(double)i)*kat[i]);
    }
    return denk;
}

```

Simpson Metodu

```

#include<stdio.h>
#include<math.h>
#define MAX 100
float integral(float kat[],float xn,float x0,int n,int ,int);
float equation(float t,float kat[],int derece,int );
int main(){

```

```

float kat[MAX],a,b;
int N,derece,i;
printf("Limit degerlerini kucukten buyuge giriniz:");
scanf("%f%f",&a,&b);
printf("N:");
scanf("%d",&N);
printf("Derece:");
scanf("%d",&derece);
for(i=0;i<=derece;i++){
    printf("x^%d. terimin katsayisini giriniz:",i);
    scanf("%f",&kat[i]);
}
printf("Integral|%0.f to %0.f =
%0.2f\n",a,b,integral(kat,b,a,N,1,derece));
printf("Area|%0.f to %0.f = %0.2f",a,b,integral(kat,b,a,N,-1,derece));
}

```

```

float integral(float kat[],float xn,float x0,int n,int sign,int derece){
    float h,S=0;
    int i;
    h=fabs(1.0*(xn-x0)/n);
    S=equation(x0,kat,derece,sign)+equation(xn,kat,derece,sign);
    for(i=1;i<=n-1;i+=2){
        //printf("%f\n",S);
        S=S+4*equation(x0+i*h,kat,derece,sign);
    }
    for(i=2;i<=n-2;i+=2){

```

```

        //printf("%f\n",S);
        S=S+2*equation(x0+i*h,kat,derece,sign);
    }
    S=(h/3)*S;
    return S;
}

float equation(float t,float kat[],int derece,int sign){
    int i;
    float denk=0;
    for(i=0;i<=derece;i++){
        denk+=(pow((double)t,(double)i)*kat[i]);
    }
    if(denk<0){
        denk=denk*sign;
    }
    return denk;
}

```

Trapez Metodu

```

#include<stdio.h>
#include<math.h>
#define MAX 100

float integral(float kat[],float xn,float x0,int n,int ,int);
float equation(float t,float kat[],int derece,int );
int main(){

```

```

float kat[MAX],a,b;
int N,derece,i;
printf("Limit degerlerini giriniz:");
scanf("%f%f",&a,&b);
printf("N:");
scanf("%d",&N);
printf("Derece:");
scanf("%d",&derece);
for(i=0;i<=derece;i++){
    printf("x^%d. terimin katsayisini giriniz:",i);
    scanf("%f",&kat[i]);
}
printf("Integral|%0.f to %0.f = %0.2f\n",a,b,integral(kat,b,a,N,1,derece));
printf("Area|%0.f to %0.f = %0.2f",a,b,integral(kat,b,a,N,-1,derece));
}

```

```

float integral(float kat[],float xn,float x0,int n,int sign,int derece){
    float h,S=0;
    int i;
    h=fabs(1.0*(xn-x0)/n);
    S=(equation(x0,kat,derece,sign)+equation(xn,kat,derece,sign))/2;
    for(i=1;i<n;i++){
        //printf("%f\n",S);
        S=S+equation(x0+i*h,kat,derece,sign);
    }
}

```

```
S=h*S;  
return S;  
}
```

```
float equation(float t,float kat[],int derece,int sign){  
    int i;  
    float denk=0;  
    for(i=0;i<=derece;i++){  
        denk+=(pow((double)t,(double)i)*kat[i]);  
    }  
    if(denk<0){  
        denk=denk*sign;  
    }  
    return denk;  
}
```

Gregory-Newton Entepolasyonu

```
#include<stdio.h>  
#define MAX 100  
void gregory_newton(float a[][2],int size,float x,int);  
float pow(float a,int b);  
int fakt(int f);  
int ileri_fark(float a[][2],int size);
```

```

int esitmi(float dizi[],int a,int n);
float kok(float x,int kere,float a[][2]);
int main(){
    float deger[MAX][2];
    int i,j,cozum,exit;
    float value;
    printf("Gireceginiz ornek sayisini yaziniz:");
    scanf("%d",&cozum);
    for(i=0;i<cozum;i++){
        printf("%d. index degerini giriniz:",i+1);
        scanf("%f",&deger[i][0]);
        printf("%d. fonksiyon degerini giriniz:",i+1);
        scanf("%f",&deger[i][1]);
    }
    i=0;
    do{
        printf("f(x) fonksiyonu icin x degerini giriniz:");
        scanf("%f",&value);
        gregory_newton(deger,cozum,value,i);
        printf("(1)Tekrar deger girmek icin 1'e basiniz\n(2)Cikmak icin
0'a basiniz\nEnter:");
        scanf("%d",&exit);
        i++;
    }while(exit);

    return 0;
}

```

```

void gregory_newton(float a[][2],int size,float x,int sayi){
    float h=a[1][0]-a[0][0];
    static int sinir;
    int i;
    float denk=a[0][1];
    if(sayi==0){
        sinir=ileri_fark(a,size);
    }
    for(i=1;i<=sinir;i++){
        denk+=((a[i][1]*kok(x,i,a))/(pow(h,i)*1.0*fakt(i)));
    }
    printf("f(%.2f) = %f\n",x,denk);
}

```

```

float kok(float x,int kere,float a[][2]){
    int i;
    float kuad=1;
    for(i=0;i<kere;i++){
        kuad*=(x-a[i][0]);
    }
    return kuad;
}

```

```

float pow(float a,int b){
    int k;
    if(b==0){
        return 1;
    }
}

```

```

    }
    else{
        k=pow(a,b/2);
        if(b%2==1)
            return a*k*k;
        else
            return k*k;
    }
}

int fakt(int f){
    if(f==1 || f==0)
        return 1;
    else
        return f*fakt(f-1);
}

int ileri_fark(float a[][2],int size){
    int i,j=0;
    float gecici[size];
    do{
        for(i=j;i<size;i++){
            gecici[i+1]=a[i+1][1]-a[i][1];
        }
        printf("%d. ileri fark:\n",j+1);
        for(i=j+1;i<size;i++){
            a[i][1]=gecici[i];
            printf("%.f\n",a[i][1]);
        }
    }
}

```



```

        j++;
    }while(esitmi(gecici,j,size));
    return j;
}

int esitmi(float dizi[],int a,int n){
    int i=a;
    while(i<n-1 && dizi[i]==dizi[i+1]){
        i++;
    }
    if(i==(n-1))
        return 0;
    else
        return 1;
}

```

Gregory-Newton Entepolasyonu Ekran Çıktısı

Seq C:\Users\user\Documents\CF 1_2\CF 2 dlc\mm\Sayfa Analizi\Projeler\gregory_newton.exe

```

Gireceginiz ornek sayisini yaziniz:5
1. index degerini giriniz:2
1. fonksiyon degerini giriniz:10
2. index degerini giriniz:4
2. fonksiyon degerini giriniz:50
3. index degerini giriniz:6
3. fonksiyon degerini giriniz:122
4. index degerini giriniz:8
4. fonksiyon degerini giriniz:226
5. index degerini giriniz:10
5. fonksiyon degerini giriniz:362
f(x) fonksiyonu icin x degerini giriniz:4
1. ileri fark:
40
72
104
136
2. ileri fark:
32
32
32
f(4.00) = 50.000000
(1)Tekrar deger girmek icin 1'e basiniz
(2)Cikmak icin 0'a basiniz
Enter:1
f(x) fonksiyonu icin x degerini giriniz:5
f(5.00) = 82.000000
(1)Tekrar deger girmek icin 1'e basiniz
(2)Cikmak icin 0'a basiniz
Enter:0

```

Process exited after 73.61 seconds with return value 0

Press any key to continue . . .

Aramak için buraya yazın

Prode 10/23 9.06.2021