```
#include<conio.h>
#include<stdio.h>
#include<math.h>
void main()
{
 int n,i,j;
 double xr[100],xi[100],XR[100],XI[100];
 clrscr();
 printf("Enter length of sequence:");
 scanf("%d",&n);

 for(i=0;i<n;i++)
 {
  printf("Enter real part and imaginary part of X[ %d ]:",i);
  scanf("%lf",&XR[i]);
  scanf("%lf",&XI[i]);
 }

 for(i=0;i<n;i++)
 {
  xr[i]=0.0;
  xi[i]=0.0;
  for(j=0;j<n;j++)
  {

xi[i]+=XR[j]*sin(((2*3.1415926535)/(float)n)*i*j)+XI[j]*cos(((2*3.1415926535)/(fl
oat)n)*i*j);

xr[i]+=XR[j]*cos(((2*3.1415926535)/(float)n)*i*j)+(-1)*XI[j]*sin(((2*3.1415926535
)/(float)n)*i*j);

  }
  xr[i]*=(1/(float)n);
  xi[i]*=(1/(float)n);
 }
  for(i=0;i<n;i++)
  {
        printf("Real:%lf Imaginary:%lf\n",xr[i],xi[i]);
  }
  getch();
}
/*
OUTPUT:
Enter length of sequence:4
Enter real part and imaginary part of X[ 0 ]:10 0
Enter real part and imaginary part of X[ 1 ]:-2 2
Enter real part and imaginary part of X[ 2 ]:-2 0
Enter real part and imaginary part of X[ 3 ]:-2 -2
Real:1.000000 Imaginary:0.000000
Real:2.000000 Imaginary:0.000000
Real:3.000000 Imaginary:-0.000000
Real:4.000000 Imaginary:-0.000000
```