```
#include <iostream>
using namespace std;
#include <cmath>
//#include "wired.h"
#include <fstream>
#include"tmwtypes.h"
#include"stdlib.h"
/* run this program using the console pauser or add your own getch, system("pause") or input
loop */

int main() {

        int i,j,k;
        int n =4;
        int lenout=4*n;
        int index;
        int leninp1 = 4*n;
        creal_T h[leninp1];
        creal_T x[leninp1];
        creal_T  y[leninp1/4];
        creal_T t[leninp1];

        cout << " values of x: ";
         for(i = 0; i < leninp1; i++)
  {

        h[i].re=(rand()%2);
        h[i].im=(rand()%2);
        x[i].re=(rand()%2);
        //x[i].im=2*(rand()%2)-1;


        cout <<x[i].re << " ";


  }

        cout << "\n "<< "\n" ;

        for(i = 0; i < leninp1/4; i++)
        {
                if(x[4*i].re==0&&x[4*i+1].re==0&&x[4*i+2].re==0&&x[4*i+3].re==1)
```

```
        y[i].re=1;
        y[i].im = 3;

if(x[4*i].re==0&&x[4*i+1].re==1&&x[4*i+2].re==0&&x[4*i+3].re==1)
        y[i].re=3;
        y[i].im = 3;

if(x[4*i].re==0&&x[4*i+1].re==1&&x[4*i+2].re==0&&x[4*i+3].re==0)
        y[i].re=3;
        y[i].im = 1;

if(x[4*i].re==0&&x[4*i+1].re==1&&x[4*i+2].re==1&&x[4*i+3].re==0)
        y[i].re=3;
        y[i].im = -1;

if(x[4*i].re==0&&x[4*i+1].re==1&&x[4*i+2].re==1&&x[4*i+3].re==1)
        y[i].re=3;
        y[i].im = 3;

if(x[4*i].re==0&&x[4*i+1].re==0&&x[4*i+2].re==0&&x[4*i+3].re==0)
        y[i].re=1;
        y[i].im = 1;

if(x[4*i].re==0&&x[4*i+1].re==0&&x[4*i+2].re==1&&x[4*i+3].re==1)
        y[i].re=1;
        y[i].im = -1;
```

```
if(x[4*i].re==0&&x[4*i+1].re==0&&x[4*i+2].re==1&&x[4*i+3].re==1)
        y[i].re=1;
        y[i].im = 3;


if(x[4*i].re==1&&x[4*i+1].re==0&&x[4*i+2].re==0&&x[4*i+3].re==1)
        y[i].re=-1;
        y[i].im = 3;


if(x[4*i].re==1&&x[4*i+1].re==0&&x[4*i+2].re==0&&x[4*i+3].re==0)
        y[i].re=-1;
        y[i].im = 1;

if(x[4*i].re==1&&x[4*i+1].re==0&&x[4*i+2].re==1&&x[4*i+3].re==0)
        y[i].re=-1;
        y[i].im = -1;


if(x[4*i].re==1&&x[4*i+1].re==0&&x[4*i+2].re==1&&x[4*i+3].re==1)
        y[i].re=-1;
        y[i].im = 3;

if(x[4*i].re==1&&x[4*i+1].re==1&&x[4*i+2].re==0&&x[4*i+3].re==1)
        y[i].re=-3;
        y[i].im = 3;


if(x[4*i].re==1&&x[4*i+1].re==1&&x[4*i+2].re==0&&x[4*i+3].re==0)
        y[i].re=-3;
        y[i].im = 1;
```

```
            if(x[4*i].re==1&&x[4*i+1].re==1&&x[4*i+2].re==1&&x[4*i+3].re==0)
                y[i].re=3;
                y[i].im = 3;



            if(x[4*i].re==1&&x[4*i+1].re==1&&x[4*i+2].re==1&&x[4*i+3].re==1)
                y[i].re=-3;
                y[i].im = 3;



    }
    cout<< "values of y: ";

            for(i = 0; i < leninp1/4; i++)
                    cout << y[i].re<< " "<< y[i].im << "\n" ;




    return 0;
}
```