

```

#include <stdio.h>

#include <stdlib.h>

#include <math.h>

#include <time.h>

#include "winbgi2.h"

#define Pi 4*atan(1.)

double divergence(double zR, double zC, double cR, double cC)
{
    int n = 600;
    int i = 1;
    double mz;
    while(i<n){
        zR = zR*zR - zC*zC + cR;
        zC = 2*zC*zR + cC;
        mz = sqrt(zC*zC + zR*zR);
        if(mz >2){
            break;
        }
        i++;
    }
    if(i<599){
        return (double)i;
    }
    else
        return 0.0;
}

double fun(double x, double y) {
    return divergence(0, 0, x, y);
}

```

```
}
```

```
void main()
```

```
{
```

```
    double r;
```

```
    int i, j;
```

```
    graphics(810,610);
```

```
    for (i=0; i<800; i++)
```

```
        for (j=0; j<600; j++)
```

```
            {
```

```
                r = fun(i/200.-2., j/200. - 1.5);
```

```
                setcolor(r);
```

```
                circle(i,j,1);
```

```
            }
```

```
    wait();
```

```
}
```