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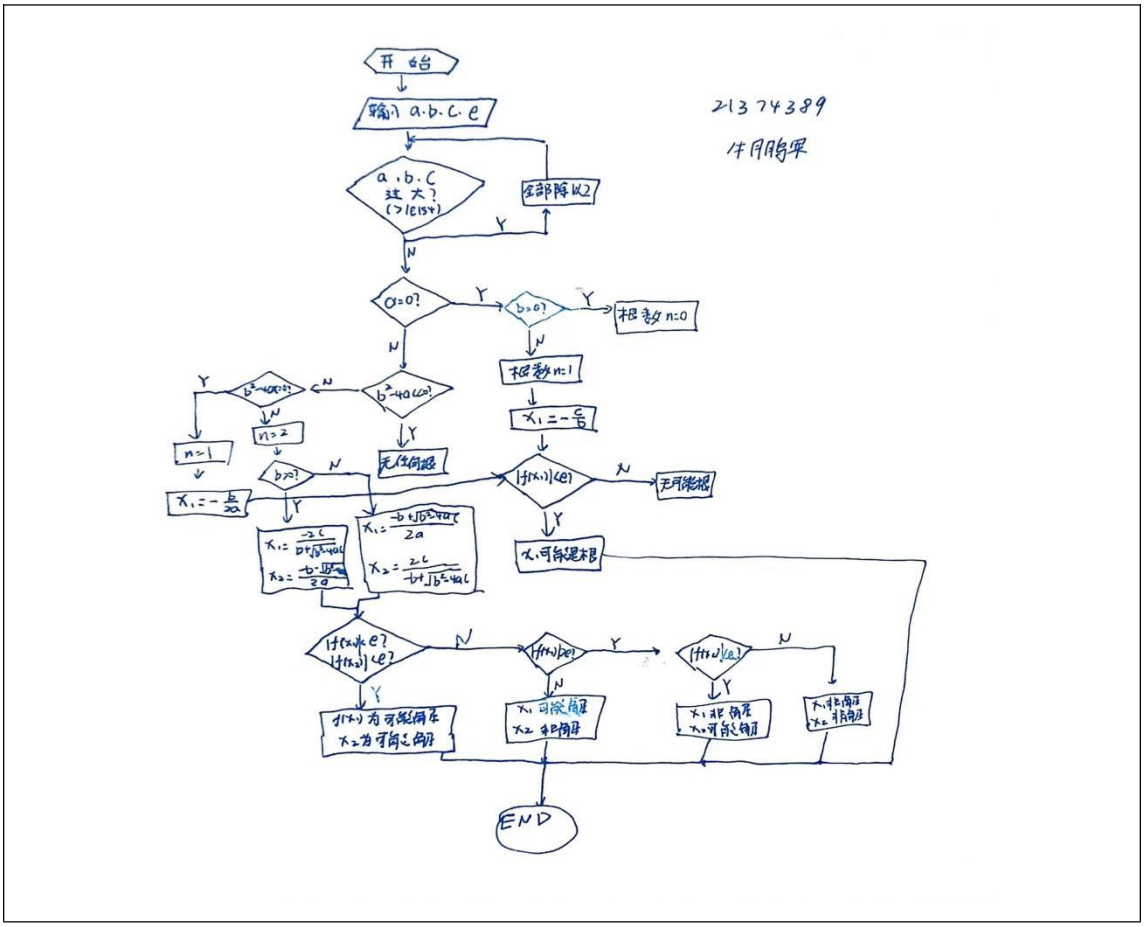
算法框图：



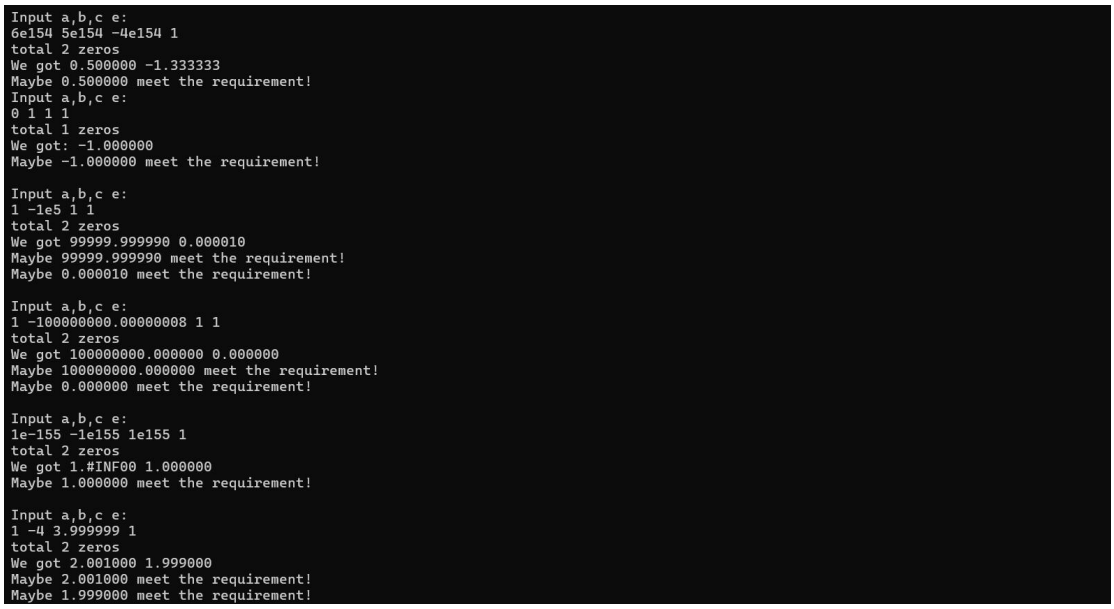
代码部分：

```
#include "stdio.h"
#include "math.h"
#define eps 1e-10
int zeros(double a,double b, double c);
bool function(double a,double b, double c,double x,double e);
double x1,x2;
#define eps 1e-10
int main()
{	while(1){
	double a,b,c,e;
	printf("Input a,b,c e:\n");
	scanf("%lf %lf %lf %lf",&a,&b,&c,&e);
	if(a){
		while(a>1e154||b>1e154||c>1e154){
			a/=2;b/=2;c/=2;
		}
	}
	int n=zeros(a,b,c);
```

```
        printf("total %d zeros\n",n);
        if(n==1){
                printf("We got: %lf\n",x1);
                if(function(a,b,c,x1,e)){
                        printf("Maybe %lf meet the requiremwnt!\n\n",x1);
                }
        }else if(n==2){
                printf("We got %lf %lf\n",x1,x2);
                if(function(a,b,c,x1,e)){
                        printf("Maybe %lf meet the requiremwnt!\n",x1);
                }
                if(function(a,b,c,x2,e)){
                        printf("Maybe %lf meet the requiremwnt!\n\n",x2);
                }
        }
}
        return 0;
}
int zeros(double a,double b, double c){
        if(a==0){
                if(b==0){
                        return 0;
                }else{
                        x1=-c/b;
                        return 1;
                }
        }else if(b*b<4*a*c){
                return 0;
        }else if(fabs(b*b-4*a*c)<eps){
                x1=-b*(1/(2*a));
                return 1;
        }else{
                double d=sqrt(b*b-4*a*c);
                if(b>0){
                        double temp1=1/(b+d),temp2=1/(2*a);
                        x1=-2*c*temp1;
                        x2=-(b+d)*temp2;
                }else{
                        double temp1=1/(2*a),temp2=1/(-b+d);
                        x1=(-b+d)*temp1;
                        x2=2*c*temp2;
                }
                return 2;
        }
```

```
    return -1;
}
bool function(double a,double b, double c,double x,double e){
    if(fabs(a*x*x+b*x+c)<e){
        return true;
    };
    return false;
}
```

测试结果：



Input a,b,c e:
6e154 5e154 -4e154 1
total 2 zeros
We got 0.500000 -1.333333
Maybe 0.500000 meet the requirement!

Input a,b,c e:
0 1 1 1
total 1 zeros
We got: -1.000000
Maybe -1.000000 meet the requirement!

Input a,b,c e:
1 -1e5 1 1
total 2 zeros
We got 99999.999990 0.000010
Maybe 99999.999990 meet the requirement!
Maybe 0.000010 meet the requirement!

```
Input a,b,c e:
1 -100000000.00000008 1 1
total 2 zeros
We got 100000000.000000 0.000000
Maybe 100000000.000000 meet the requirement!
Maybe 0.000000 meet the requirement!

Input a,b,c e:
1e-155 -1e155 1e155 1
total 2 zeros
We got 1.#INF00 1.000000
Maybe 1.000000 meet the requirement!

Input a,b,c e:
1 -4 3.999999 1
total 2 zeros
We got 2.001000 1.999000
Maybe 2.001000 meet the requirement!
Maybe 1.999000 meet the requirement!
```