```
/*Bisection method*/
using namespace std;
#include <iostream>
#include <iomanip>
#include <math.h>
float f(float x)
{
 return (x*x*x-4*x-9);
 }
 void bisect(float *x,float a, float b, int *itr)
 {
 *x =(a+b)/2;
 ++(*itr);
 cout<<"Iteration no."<<setw(3)<<"x"<<*itr << " = " << setw(7)<<setprecision(5)
                        <<*x<<endl;
 }
 int main()
 {
 int itr = 0, maxitr;
 float x, a, b, aerr, x1;
 cout<<"Enter the value of a, b," << "allowed error, maximum iterations"<<endl;
 cin>>a>>b>>aerr>>maxitr;
 if (f(a)*f(b)<0)
 {
 bisect(&x,a,b,&itr);
```

```
do
{
if (f(x)==0)
{
cout<<"the exact root is"<<setw(2)<<x<<endl;
return 0;}
else if (f(a)*f(x) < 0)
 b = x;
else
a = x;
bisect(&x1,a,b,&itr);
if(fabs(x1 - x)< aerr)
{
cout<<"After"<<setw(2)<<itr<<"  "<<"iterations, root"<<"="<<setw(6)
                        <<setprecision(4)<<x1<<endl;
return 0;
}
x = x1;
}
while (itr < maxitr);
cout<<"solution does not converge,"<<"iterations not sufficient"<<endl;
}
else cout<<"please change your values of a and b";
return 1; }
```