//program for regula falsi method

#include<iostream>

using namespace std;

#include<math.h>

#define f(x) (x\*x\*x-x-11)

float x0,x1,xn,x=1;

void f1()

{ for(int i=0;i<10;i++)

{ xn=(x0\*f(x1)-x1\*f(x0))/(f(x1)-f(x0));

if(f(xn)<0.0)

x0=xn;

else

x1=xn;

cout<<"\n Step "<<i+1<<"\t Root = "<<xn;

}

}

void f2()

{ for(int i=0;i<10;i++)

{ xn=(x0\*f(x1)-x1\*f(x0))/(f(x1)-f(x0));

if(f(xn)<0.0)

x1=xn;

else

x0=xn;

cout<<"\n Step "<<i+1<<"\t Root = "<<xn;

}

}

int main()

{ if(f(x)<0.0)

{ while(f(x)<0.0)

x++;

x1=x--;

x0=x;

cout<<" A = "<<x0<<" and B = "<<x1<<". ";

f1();

}

else

{ while(f(x)>0.0)

x++;

x1=x--;

x0=x;

cout<<" A = "<<x0<<" and B = "<<x1<<". ";

f2();

}

return 0;

}

