//program for newton rapson method

#include<iostream>

using namespace std;

#define f(x) (x\*x\*x+x-1) //function f(x)

#define g(x) (3\*x\*x+1) //function f’(x)

int a=0,b=0;

float x0,xn;

void interval();

void check();

int main()

{ interval();

cout<<" A = "<<a<<"\t B = "<<b<<endl;

check();

return 0;

}

void interval() //function to find the interval

{ if(f(a)<0.0)

{ while(f(a)<0.0)

a++;

b=a--;

}

else

{ while(f(a)>0.0)

a++;

b=a--;

}

}

void check() //function to find the root

{ int i=0;

x0=(float)(a+b)/2;

while(i<30)

{ xn=x0-(f(x0)/g(x0));

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

if(xn==x0)

break;

x0=xn;

}

}

