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//program for successive approximation method
#include "stdafx.h"
#include <iostream>
using namespace std;
#include <math.h>
//#define f(x) (x*x*x*x-x-10)
//#define g(x) (pow((x+10),0.25))
#define f(x) (x*x*x+x*x-1)
#define g(x) (pow((x+1),-0.5))
int a, b, x=0;
float x0=0, xn=0;
int main()
{    if(f(x)<0.0)
     {    while(x<30)
          {    if(f(x)>0.0)
               {    b = x--;
                    a = x;
                    break;
               }
               x++;
          }
          cout << " Interval : [" << a << "," << b << "]";
          x0 = (float)(a + b) / 2;
          for(int i=0;i<30;i++)
          {    xn = g(x0);
               if (xn == x0)
                    break;
               x0 = xn;
               cout << "\n Step " << i+1 << "\t Root=" << xn;
          }
     }
     else
     {    while(x<30)
```

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            {     if(f(x)<0.0)
                  {     a = x--;
                        b = x;
                        break;
                  }
                  x++;
            }
            cout << " Interval : [" << a << "," << b << "]";
            x0 = (float)(a + b) / 2;
            for (int i = 0; i<30; i++)
            {     xn = g(x0);
                  if (xn == x0)
                        break;
                  x0 = xn;
                  cout << "\n Step " << i + 1 << "\t Root=" << xn;
            }
      }
      return 0;
}
```