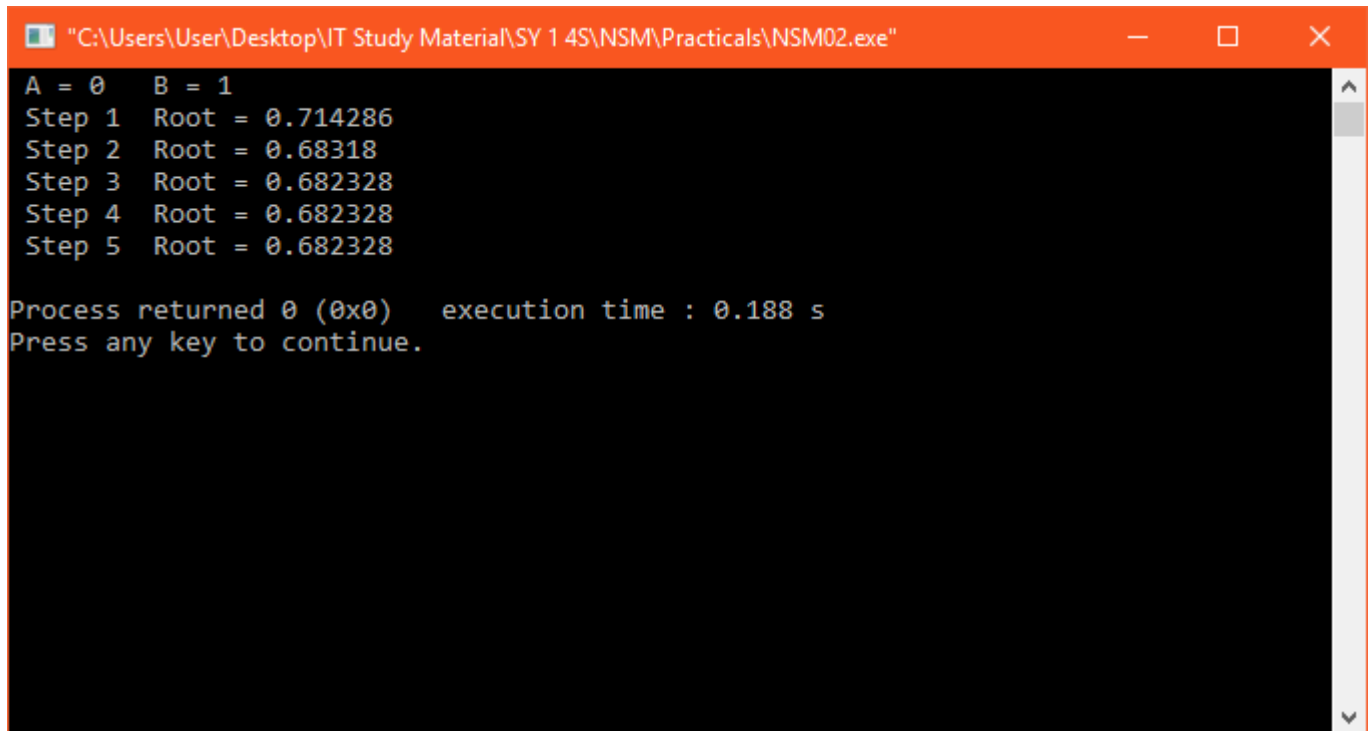


```

//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;
    }
}
```



```
"C:\Users\User\Desktop\IT Study Material\SY 1 4S\NSM\Practicals\NSM02.exe"
A = 0   B = 1
Step 1  Root = 0.714286
Step 2  Root = 0.68318
Step 3  Root = 0.682328
Step 4  Root = 0.682328
Step 5  Root = 0.682328

Process returned 0 (0x0)   execution time : 0.188 s
Press any key to continue.
```