In[1]:=
```
f[x_] := x^3 + 7 x^2 + 16 x - 1
```

In[2]:=
```
NRoots[f[x] == 0, x]
```

Out[2]=
```
x == -3.53043 - 1.99143 i || x == -3.53043 + 1.99143 i || x == 0.0608652
```

In[3]:=
```
f[1]
```

Out[3]=
```
23
```

In[4]:=
```
f[-3]
```

Out[4]=
```
-13
```

In[5]:=
```
a = 1;
x = -3;
n = 1;
While[Abs[f[x]] > 0.0001, {If[f[a] f[x] < 0, b = x, a = x], x = (a + b) / 2, n++}];
Print[N[{x, f[x], n}]]
```

```
{0.0608673, 0.0000362617, 19.}
```

In[10]:=
```
n = 1;
x = 1 / 2;
While[Abs[f[x]] > 0.0001, {x = N[x - f[x] / f'[x]], n++}];
Print[N[{x, f[x], n}]]
```

```
{0.0608665, 0.0000221878, 4.}
```

In[14]:=
```
n = 1;
x = 1 / 2 + 100 I;
While[Abs[f[x]] > 0.0001, {x = N[x - f[x] / f'[x]], n++}];
Print[N[{x, f[x], n}]]
```

```
{-3.53043 + 1.99144 i, 0.0000424269 - 0.0000187698 i, 14.}
```

In[18]:=
```
n = 1;
x = 1 / 2 - 100 I;
While[Abs[f[x]] > 0.0001, {x = N[x - f[x] / f'[x]], n++}];
Print[N[{x, f[x], n}]]
```

```
{-3.53043 - 1.99144 i, 0.0000424269 + 0.0000187698 i, 14.}
```