Bisection Method

Advantages:

Simple and easy to implement

One function evaluation per iteration

The size of the interval containing the zero is reduced by 50% after each iteration.

The number of iterations can be determined a priori.

The function does not have to be differentiable.

Disadvantages:

Slow to converge

Good intermediate approximations may be discarded.

Newton-Raphson Method

Advantages:

One of the fastest methods which converges to root quickly.

Converges on the root quadratically.

Number of significant digits approximately doubles with each other.

It makes this method useful to get precise results for a root which was previously obtained from some other convergence method.

Easy to convert to multiple dimension.

Disadvantages:

We must find the derivative to use this method.

Poor global convergence propertices.

Dependent on initial guess

May be too far from local root

May encounter a zero derivative

May loop indefinitely.

False Position method

Advantages:

It always converges.

It does not require the derivative.

It is a quick method.

Disadvantages:

One of the interval definitions can get stuck.

It may slowdown in unfavourable situations.