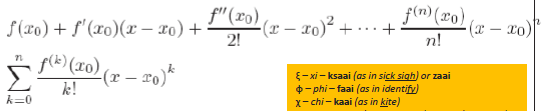
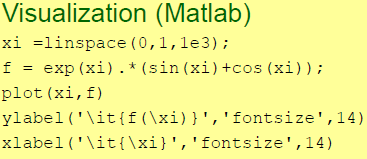
Taylor’s theorem

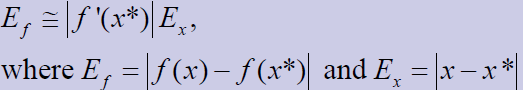


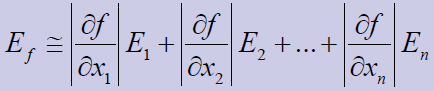




Second Taylor polynomial for about 

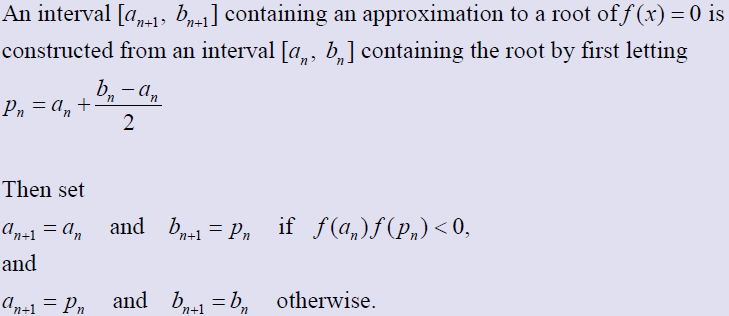
Remainder term (upper bound)

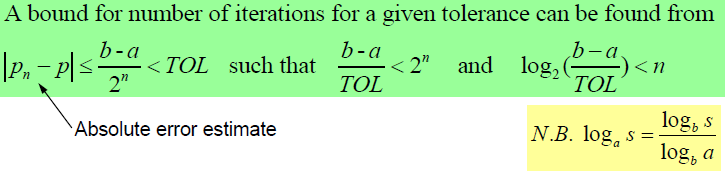
Error propagation



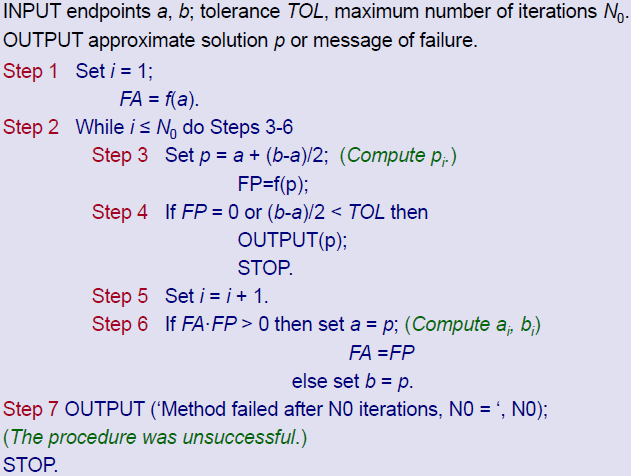
Solutions of one variable equations

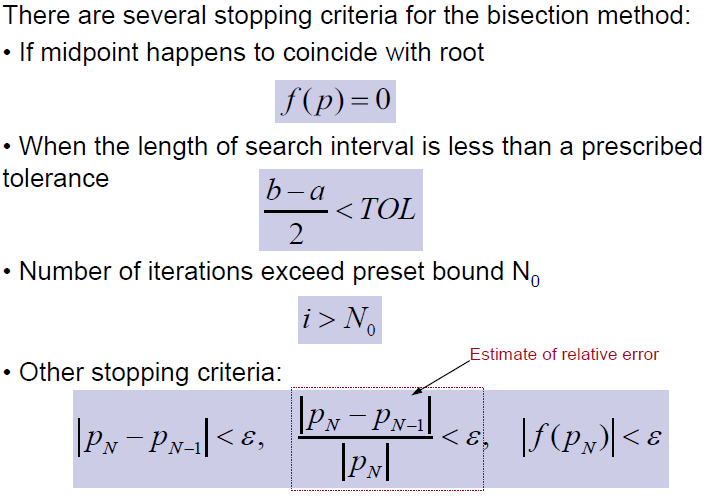
Bisection method



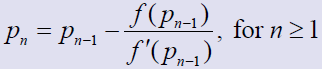


Pseudocode

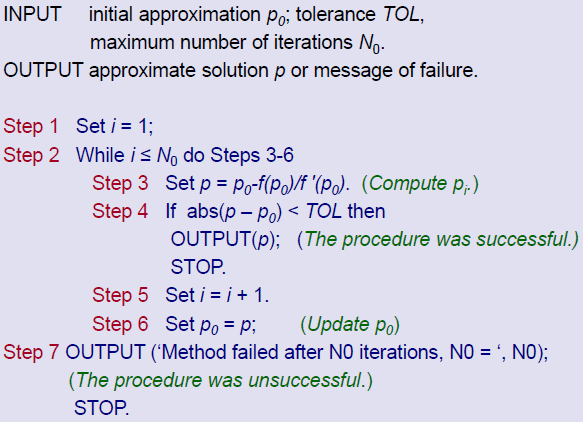


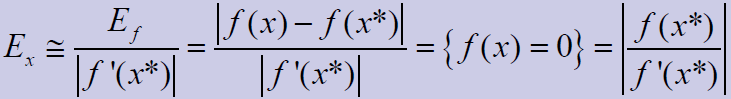


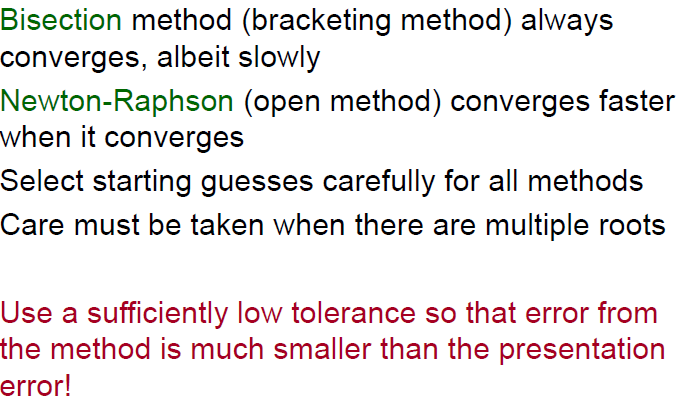
Newton-Raphson



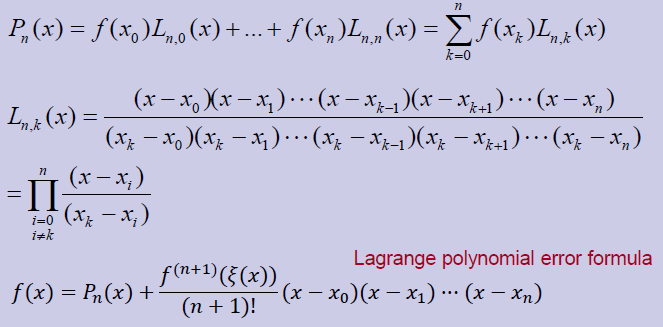
Pseudocode







Interpolation and poly approximation

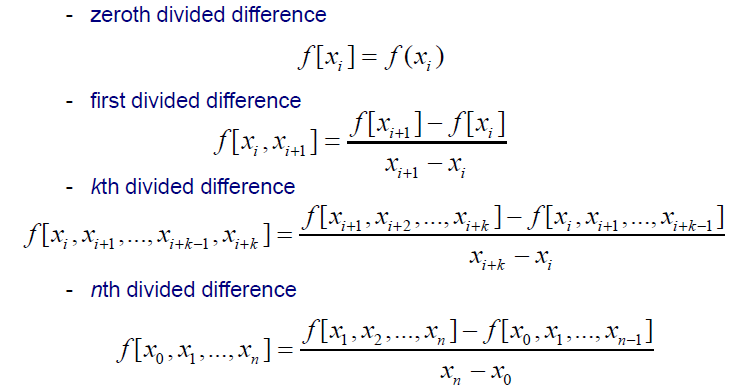
Lagrange polynomialHermite interpolation (n+2)

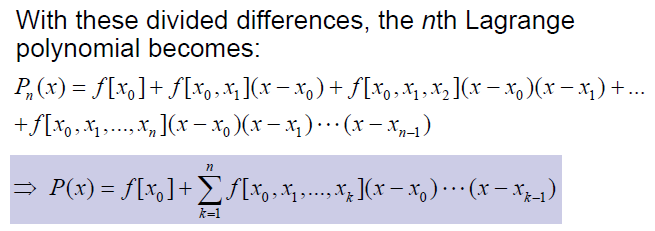
- derivatives (gives 2n+1 degrees)

Spline Interpolation

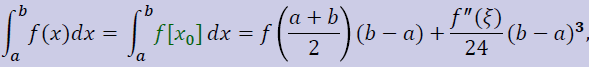
- need high degree

Integration

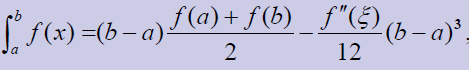




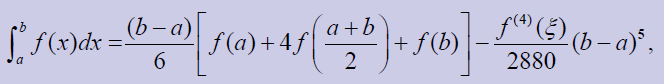
Midpoint rule



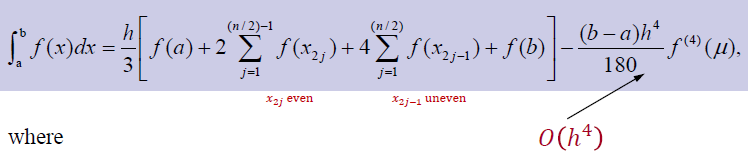
Trapezoidal rule

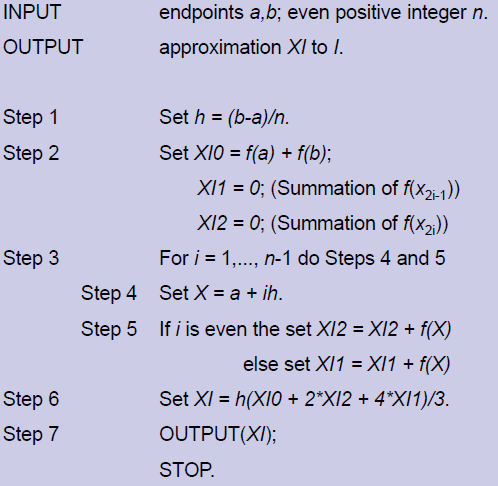


Simpson’s rule

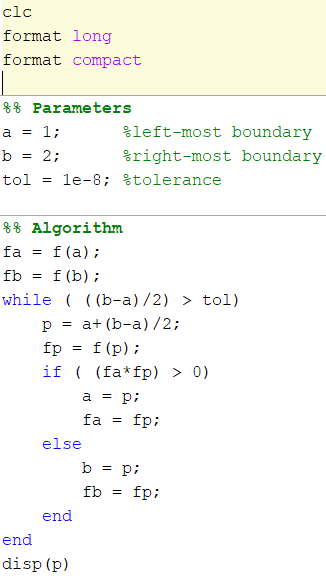


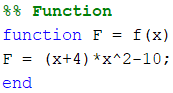
Composite simpson’s rule



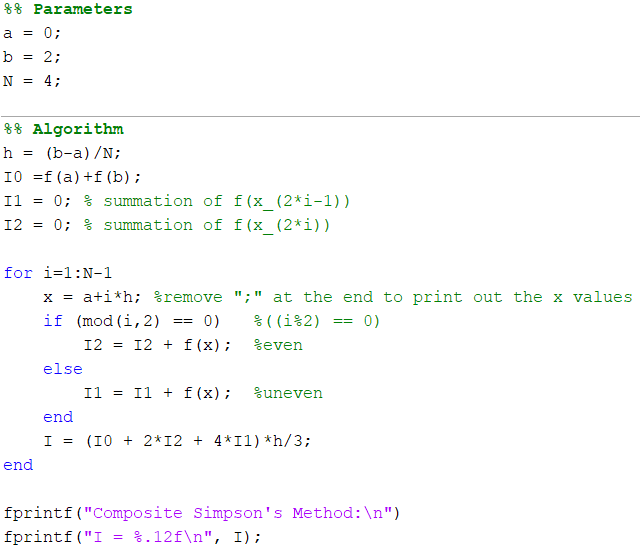
Pseudocode

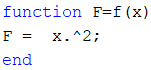
Bisection

vvvvvvvvvvvvvvvvvvvvvv

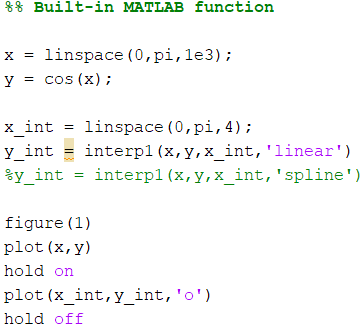


Composite simpson method





Interpolation



Newton Raphson

