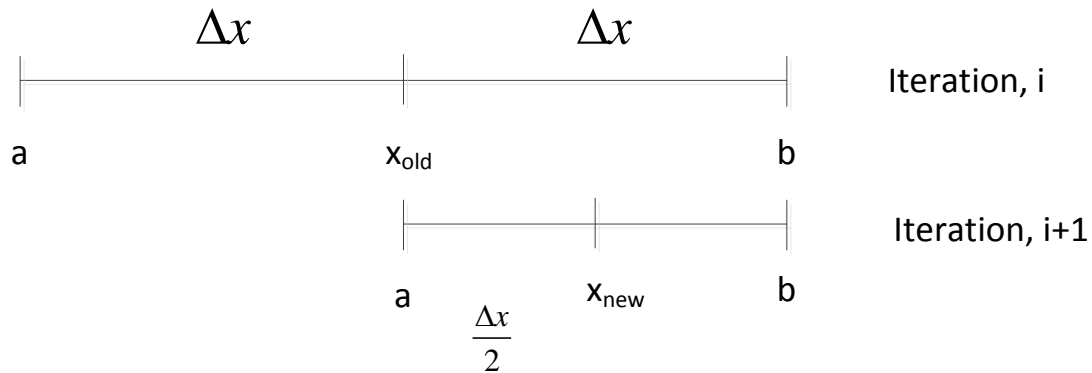


**Error Analysis of Bisection Method**

Absolute approximate error (ε_{AA}) is always an upper bound on the absolute true error (ε_{AT}) in bisection iterations.



$$\varepsilon_{AA} = |x_{new} - x_{old}| = \frac{\Delta x}{2}$$

$$\varepsilon_{AT} = |x_{new} - x_{true}| \leq \frac{\Delta x}{2}$$

$$\varepsilon_{AT} \leq \varepsilon_{AA}$$