

**Numerical Methods – Q1: Sol'n of Eq'ns [Practice/E]**  
(10/6/21)

Describe the relative merits of the Secant method and the method of False Position.

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### **Solution**

(i) For the method of False Position, a change of sign has to be investigated at each step (programming complication); for the Secant method, a sequence of estimates is produced automatically (and there needn't be a change of sign at any stage).

(ii) The method of False Position automatically produces an interval for the estimate; for the Secant method, an interval would have to be found by establishing a change of sign.

(iii) Provided the function is continuous, the method of False Position will always lead to a root (as it is trapped between bounds that get closer and closer); for the Secant method, the root isn't necessarily trapped, and convergence isn't guaranteed.

(iv) Convergence is usually faster for the Secant method than for the method of False Position.