**Eq. (3.10)** $P\_{n}\left(x\right)=f\left[x\_{0}\right]+\sum\_{k=1}^{n}f[x\_{0},x\_{1},…,x\_{k}](x-x\_{0})…(x-x\_{k-1})$

**2.** Use Eq. (3.10) to construct interpolating polynomials of degrees one, two, and three for the following data. Approximate the specified value using each of the polynomials.

**a.** $f(0.43)$ if $f\left(0\right)=1, f\left(.25\right)=1.64872 f\left(.5\right)=2.71828, f\left(.75\right)=4.48169$

**b.** $f(0)$ if $f\left(-.5\right)=1.93750, f\left(-.25\right)=1.33203, f\left(.25\right)=.800781, f\left(.5\right)=.687500$