

Then we can write

$$E^{(k)} = C \cdot (E^{(k-1)})^p$$

$$E^{(k+1)} = C \cdot (E^{(k)})^p$$

Taking the log on both sides gives

$$\log(E^{(k)}) = \log(C) + p \cdot \log(E^{(k-1)})$$

$$\log(E^{(k+1)}) = \log(C) + p \cdot \log(E^{(k)})$$

This can be solved for C and p :

$$p = \frac{\log(E^{(k+1)}) - \log(E^{(k)})}{\log(E^{(k)}) - \log(E^{(k-1)})}$$

$$C = \frac{E^{(k+1)}}{(E^{(k)})^p} = \frac{E^{(k)}}{(E^{(k-1)})^p}$$

Ex.: (2) Determine C & p for the fixed-point iterations from Ex. (1) ~~no~~ slides

Catch: How to compute $E^{(k)} = |x^{(k)} - x^*|$?
= ?