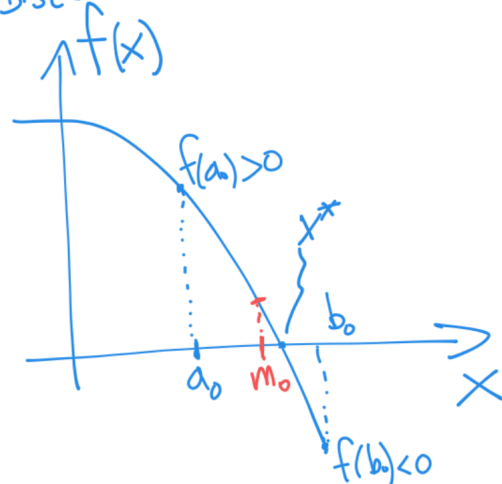


Welcome !!
1) BISECTION



Today: Root-finding

a_0, b_0 such that $\begin{cases} f(a_0) > 0 \\ f(b_0) < 0 \end{cases}$
for k in $1:20$

$$m_k = \frac{a_k + b_k}{2}$$

- if $f(m_k) > 0$, $a_{k+1} = m_k$
 $b_{k+1} = b_k$
- if $f(m_k) < 0$, $a_{k+1} = a_k$
 $b_{k+1} = m_k$
- if $f(m_k) = 0$, terminate ↗

$$|x^* - m_k| \leq |b_k - a_k| = 2^{-k} |b_0 - a_0|$$