BISECTION METHOD

→ takes advantage of IVT

→ like guessing game of higher/lower with roots.

ex.

to find $x = e^{-x}$, let $f(x) = x - e^{-x}$

we want to find where $f(x) = 0$.

Since $f(x)$ is continuous and,

$f(0) = -1$

$f(1) = 0.63$

a root exists in $[0, 1]$.

$f(0.5) = -11$
$f(0.75) = 0.28$
$f(0.625) = 0.09$
$f(0.5625) = -0.007$