

4/12/18 – Thursday

Numerical Methods - Spring '18

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### Lab #3

#### Problem 1:

Write a function that accepts a real number  $x$  and an error tolerance  $\epsilon$  and returns the Taylor approximation of  $e^x$  that has a relative approximate error less than  $\epsilon$ . Check that  $\epsilon$  is a positive number otherwise return an error message.

#### My Solution:

*\*See `taylorapproxoeepsilon.m`\**

#### Problem 2:

Write a function that accepts a relative approximate tolerance  $\epsilon$  and return the Fibonacci estimate of the Golden Ratio that has relative error less than  $\epsilon$ . Check that  $\epsilon$  is positive, otherwise return an error message.

#### My Solution:

*\*See `goldenrationfibapprox.m`\**