**Problem:** Use zero through fourth-order Taylor series expansions to predict f(2.5). for f(x) = ln(x) using a base point at x = 1. Compute the true percent relative error Et for each approximation. Discuss the meaning of the resutls

**Solution:** I used Matlab script files to write the code and for the Taylor series order I did hand calculations.

Here is the solution I got:

True relative error zero through 4th order.

***Inf 161.086048791610 344.344195166441 161.086048791610 490.950712266306***

Estimates

The estimates fluctuate

***0.916290731874155 -1.50000000000000 -0.375000000000000 -1.50000000000000***

***-0.234375000000000***

This is caused by the change in sign from one order to the next and the negation of terms when the signs are opposite, but the values are the same.

Here is my code: