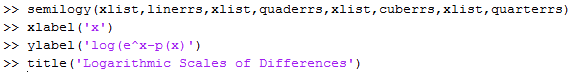
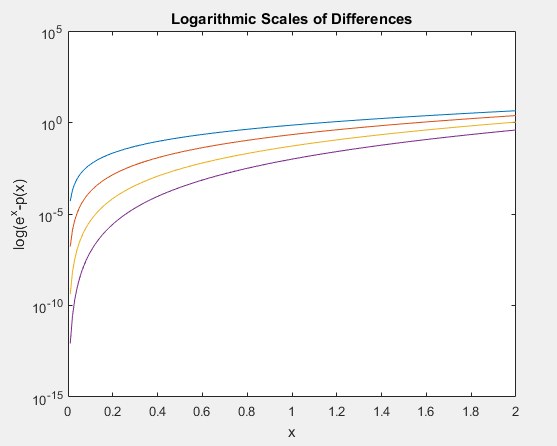
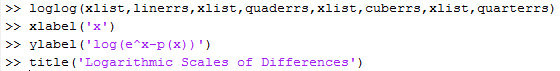
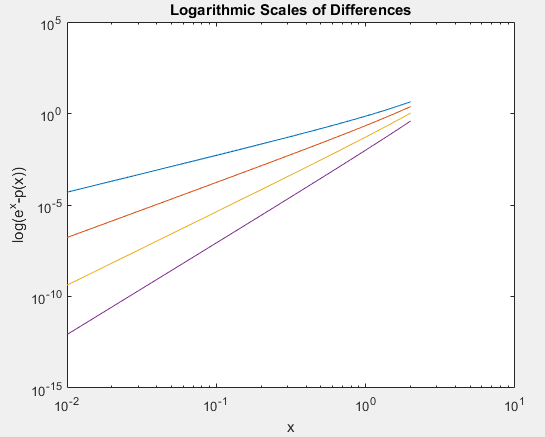
**1. MATLAB Code & Plots:**

**Check the differences:**



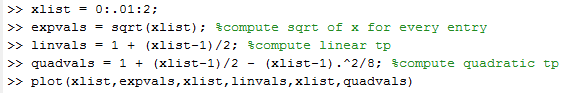


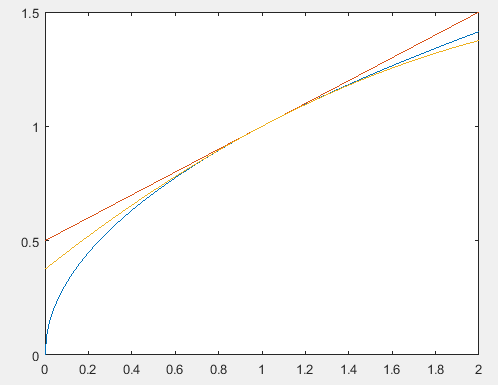


**2. Textbook Problem 2:**

**(a)**

Linear tp:

Quadratic tp:

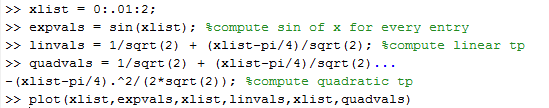


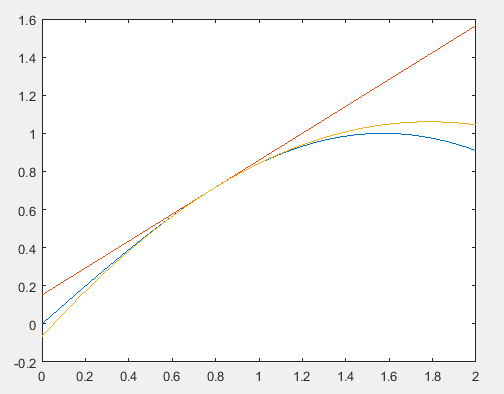
Where the blue line represent the **function**, the red line represents the **linear** Taylor polynomial, and the yellow line represents the **quadratic** Taylor polynomial.

**(b)**

Linear tp:

Quadratic tp:



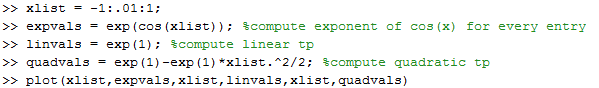


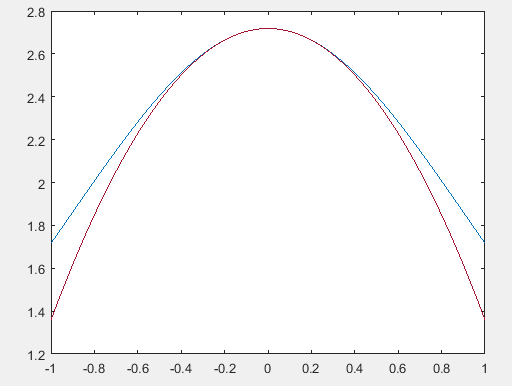
Where the blue line represent the **function**, the red line represents the **linear** Taylor polynomial, and the yellow line represents the **quadratic** Taylor polynomial.

**(c)**

Linear tp:

Quadratic tp:



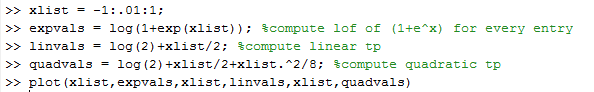


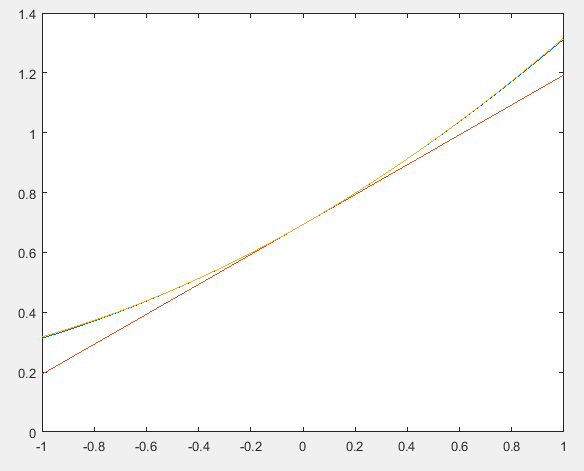
Where the blue line represent the **function**, the red line represents the **quadratic** Taylor polynomial. (The Taylor polynomials of this function only has even powers.)

**(d)**

Linear tp:

Quadratic tp:





Where the blue line represent the **function**, the red line represents the **linear** Taylor polynomial, and the yellow line represents the **quadratic** Taylor polynomial.

(The quadratic Taylor polynomial is very close to the original function.)