Matlab Group Assignment #2

Section #:_____

Names: UINs:

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In lab, you should have learned Newton's Method: to find an approximate solution to the equation $f(x) = 0$, choose a starting guess x_1 and generate subsequent guesses using the formula

$$x_{n+1} = x_n - \frac{f(x_n)}{f'(x_n)}$$

For this assignment, your team will create a program which will implement this procedure until the estimated solutions are within .001 of each other. The general strategy is as follows:

1. Create function files for f and f'
2. Plot f in an appropriate window to get x_1, your starting guess
3. Apply Newton's Method until your answers are within .001 of each other (i.e., $|x_{n+1} - x_n| < .001$. NOTE: another way of saying this is to apply Newton's Method **while** $|x_{n+1} - x_n| > .001$)

You will be given an equation to solve in lab **7 March** and you will run your program for your TA to verify that it works. You will also print your M-file which runs your program and turn that in for your TA to check. To test your program, try it on one of the odd-numbered problems in Section 3.12 of the Stewart text (pp232-233) and check your answer with the back of the book.