CENG 375
Numerical Computations

Assignment I
Solving Nonlinear Equations

Student ID   : ...
Student Name : ...

Explain the goals of the assignment, how you accomplished the task, etc. here. This part **should be written completely by you**. If you cite from other sources, **list them in References section**. Assignment reports **without proper citation will not get any grade**. For example;

*Taylor series is a representation of a function as an infinite sum of terms that are calculated from the values of the function's derivatives at a single point.***[1]**

*The root is (almost) never known exactly, since it is extremely unlikely that a numerical procedure will find the precise value of x that makes f (x) exactly zero in floating-point arithmetic.***[2]**

In order to improve readibility; source codes, output texts or any kind of text that require formatted display **should be written in monospace** (every character has same width) fonts; such as Courier, etc. Text colorization is not necessary but you have to **use proper indentation**:

Monospace font, proper indentation:	Regular font, improper indentation:
```function y = foo(n)` `grid on` `hold on` `` `x = linspace(0, 2*pi, 100);` `y = sin(x);` `` `for i=0:n-1` `    offset=i*pi/2;` `    if mod(i, 3) == 0` `        plot(offset + x, y, 'r')` `    elseif mod(i, 2) == 1` `        plot(offset + x, y, 'g')` `    else` `        plot(offset + x, y, 'b')` `    end` `end```	function y = foo(n) grid on hold on x = linspace(0, 2*pi, 100); y = sin(x); for i=0:n-1 offset=i*pi/2; if mod(i, 3) == 0 plot(offset + x, y, 'r') elseif mod(i, 2) == 1 plot(offset + x, y, 'g') else plot(offset + x, y, 'b') end end

Monospace font, proper indentation:

```
>> a=[ 47 6 13 ]
a =
    47      6     13

>> x=[ a ; a.^3 ; a.^2 ]
x =
          47             6           13
      103823           216         2197
        2209            36          169
```

Regular font, improper indentation:

```
>> a=[ 47 6 13 ]
a =
  47   6   13

>> x=[ a ; a.^3 ; a.^2 ]
x =
     47      6     13
  103823    216    2197
    2209     36     169
```

The code you submit must be **written completely by you**. You may use anything from textbook or notes, but **same code** received from **many students** or **other sources** **will not be tolerated**.

References

[1] Wikipedia, Taylor Series Article
http://en.wikipedia.org/wiki/Taylor_series

[2] Cankaya University Computer Engineering Department, CENG375 3rd Week Lecture Notes
http://siber.cankaya.edu.tr/ozdogan/NumericalComputations/week3/week3phandout.pdf