1. To rewrite newton’s method in book (sec. 7.1 p. 164) by using (for & if break)

Ans:

% excludes zero roots!

steps = 0; % iteration counter

x = input( 'Initial guess: '); % estimate of root

re = 1e-8; % required relative error

myrel = 1;

for steps=1:19

xold = x;

x = x - f(x)/df(x);

steps = steps + 1;

disp( [x f(x)] )

myrel = abs((x-xold)/x);

if myrel <= re

break;

end

end

if myrel <= re

disp( 'Zero found at' )

disp( x )

else

disp( 'Zero NOT found')

end

1. Function handle: (a) Find the minimum value for the function , for the interval of . (Ans: (x,y)=(2.515, 9.0). (Use fminbnd)
2. Use fplot to plot this function for the interval of .
3. Write this function as the parametric form, that is

, where c is the parameter.

Do the same thing as (a) & (b), by given c=2.5.

1. (a) Write a script newquot.m which uses the Newton quotient [*f (x* + *h)* −*f (x)*]*/h* to estimate the first derivative of *f (x). using small values of h=*10−2*. *

*(b)* Rewrite newquot as a function M-file able to take a handle for *f (x) & h value* as an input argument. (ref to p.172)

1. Exercise 7.5 using white loop.
2. Exercise 7.6.