**CIVE 498/898 – Section 3**

**Computational Problem Solving in Civil Engineering Engineering**

Assignment 7– Due Wednesday, November 7th, 2012, at 1:00pm

1. **Solve Problem 17.11 using MATLAB function ‘fminsearch’.**

Please explain how to implement ‘fminsearch’ for this problem in your answer sheet.



Solution 1: For applying Fminsearh to this problem we have to know what we want to minimize. For setting a regression curve our main objective is to minimize the sum of squares so we will be begin with defining the function to be minimized a function which gives us an sr. It is a function of x, y a and b. Below is the m file for my program

sr.m

function sr = sr(a,x0,y0)

yp=a(1)\*x0.\*(exp(a(2)\*x0));

sr=sum(((y0-yp)).^2);

end

Than in the command window we declare x and y values of the experimental data

Than we type

[amin fval]= fminsearch(@sr,[1,1],[],x0,y0)

This command finds a value for amin such that the output of the function sr near the initial estimate of [1,1](a and b), for x0 and y0 values is minimum. And Fval finds the value of sr at the minimum values calculated. Attached is the diary of the the actual matlab output.