Assignment-11

Problem-1:[Example 17.8 of Chapra and Canale]

Fit the function $f(x; a_0, a_1) = a_0(1 - e^{-a_1 x})$ to the data :

x	0.25	0.75	1.25	1.75	2.25
y	0.28	0.57	0.68	0.74	0.79

Use initial guesses of $a_0 = 1.0$ and $a_1 = 1.0$ for the parameters. Note that for these guesses the inidial sum of the squares of the residuals is 0.0248.

Plot the final fitted function along with the data to see the matching.

Problem-2:

Write a program to generate pairs of pseudo random numbers and use them to estimate the value of π. Use as many random numbers as you can to get a better approximation to the value of π. Also use the computer generated random numbers to compare your result.

For both the cases make suitable note and submit it in the lab.