

## Introduction to Scientific Computing Software HW2

Student ID : < **Student ID** >

Write a **MATLAB script file** to solve following problems. (load `data.mat` for problem 1 and 2)

1. Use **strcat** function and **name** variable from `data.mat` to show  
“My Student ID:< **Student ID** >”

2. Use Q and A from `data.mat` :

(a) Calculate  $Q^{-1}A^{10}Q$

(b) Produces a diagonal matrix D whose diagonal elements are eigenvalues of A

3. Solve the following system of equations using the matrix form  $PX = Q$

$$\begin{cases} 5x + 4y - 5 = 0 \\ 3x - 2y + 7 = 0 \end{cases}$$