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 $PX = Q$

$$\begin{cases} 2x+ & 3y+ & 2z = & 13 \\ x+ & y+ & 2z = & 9 \\ 3x+ & 5y+ & 4z = & 23 \end{cases}$$