

## Lab 4 Assignment

*Instructor:* Rong Qin

- (1) Generate  $M$  a  $3 \times 3$  real matrix with random entries ranging from 0 to 1. Compute  $M \backslash b$  where

$$b = \begin{bmatrix} 1 \\ 3 \\ 7 \end{bmatrix}.$$

Do this 100 times. Is there always a solution? Why do you think this is?

- (2) Set up the system of equations to solve the following magic matrix. Use the comment '%' to write out the equations. Explicitly write the magic matrix in your diary file.

$$\begin{pmatrix} 2 & ? & 6 \\ ? & 5 & ? \\ ? & ? & ? \end{pmatrix}$$

*Hint:* Use the row/column sum as an additional variable.

### HW GUIDELINES

- Turn in a diary file.
- Make sure that your submission is .txt and do not compress the file(s).
- Include all .m files, do not compress these, submit them individually.