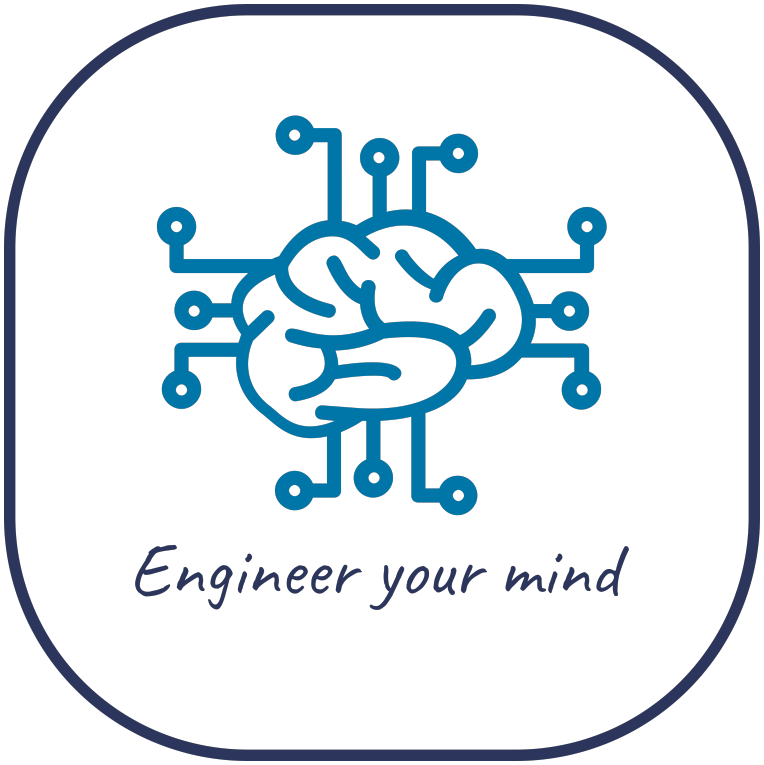


# The MATLAB Mega Course

## Second Homework

Jousef Murad
www.engineered-mind.com

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# Content

# 1 Introduction

In the third video we have had a look at MATLAB as an intelligent calculator, its basic syntax & the Three Magic C's! In this homework you will perform some operations that I have shown you in the **video**.

You can find the whole structure of the upcoming videos of the MATLAB series on my website (only a rough draft) → **Blog - MATLAB - From Zero to Hero**.

Start engineering your mind today!

# 2 Homework Exercises

## 2.1 Exercise 1

Create a small script as shown in the video putting the "Three Magic C's" in the very beginning of your script. You can add additional information like the name of the MATLAB file as well as your name, the date etc. in form of comments.

## 2.2 Exercise 2

Define the following variables and one row vector:

$$a = 10; \quad b = 50; \quad c = 20; \quad d = 100$$

$$\mathbf{v} = \begin{pmatrix} 3 & 5 & 4 & 1 \end{pmatrix}$$

## 2.3 Exercise 3

Perform some arithmetic operations with the variables you just have defined. You will see a $T$ in the second item I have listed below which is known as the **transpose** of a matrix - click on the hyperlink to learn more about this topic.

Familiarize yourself with the so called **Identity Matrix** $I$.

- $\mathbf{A} = a\mathbf{v}$
- $\mathbf{C} = \mathbf{v}\mathbf{v}^T$ - what is the result of this calculation? A vector or a single number (scalar)?
- Create a **3x3** and **5x5** identity matrix. Make sure to assign the matrices to a variable and then call them in the command window.

## 2.4 Exercise 4

Create another variable or row vector and make changes to this variable via the workspace by double-clicking on it and assigning a different value to the variable or the vector that you have created.

Try that with one of the identity matrices by changing all diagonal entries with different values.

## 2.5 Voluntary Exercise

Create a simple **for-loop** to display the values of vector v in a sequence in the command window.