

Suggested Naming Conventions for
Matlab Files and Variables

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Abstract: Naming conventions for files and variables in Matlab are suggested to reduce potential confusion.

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We will be using the following rules to name all Matlab files that have the dot-m extension, and to choose variable names in Matlab. The only reasons for the conventions are to reduce potential confusion and to facilitate bookkeeping.

1. The first convention is an attempt to address the confusion that stems from the fact that there are two separate types of files in Matlab that have the dot-m extension, one is the script file and the other is the function file. One can directly run a script file by clicking the **save and run** button or by typing the name of the file (but leave out the dot-m extension) on the command line. However a function that is defined in a function file cannot be run that way. One must explicitly call the function in question either on the command line or by running a script program that calls the function. However since both the script files and the function files have exactly the same dot-m extension, one cannot tell from the file extension alone which is which.

One therefore sometimes makes the mistake of running a file that contains a function and thus results in an error complaining that

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certain variables are not defined (on the first line of the function program where the first input parameter value is needed).

In order to prevent that from happening, we will adopt the convention to name all Matlab function files with a name that ends with the underscore. For example `runTestFunction.m` is the name of a script file, and the name of the function file that it calls is `TestFunction_.m`.

2. In Matlab a variable can represent a scalar, a vector, or a matrix. This can make the codes difficult to understand. We adopt the following variable naming convention to alleviate the potential confusion. The variable name of a scalar must start with a lowercase letter, but does not have to consist of all lower case letters. For example we can use names like `width` or `theScalar`. The variable name of a vector must start with a single uppercase letter, and must contain some lowercase letters. We can use, for example, `Vec` and `EigenVector1`. The names of matrices must start with two or more uppercase letters. For example we can use names such as `MATRIXreloaded` and `GENEpopulation`. Of

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course there will still be potential confusions. In particular a vector can be a column or row vector. We will use column vectors here unless specified otherwise.