Session 8: Introduction to Matlab 3 – Functions

Doing Economics with the Computer

1 The Topic

Today's objective is to write your own function files in Matlab. Before putting hands on and writing your own function file, read section 6.2 in the Matlab Guide. Remember that a Matlab function is a group of statements that together perform a task. In MATLAB, functions are defined in separate files. The name of the file and of the function should be the same.

Functions operate on variables within their own workspace, which is also called the local workspace, separate from the workspace you access at the MATLAB command prompt which is called the base workspace. Functions can accept more than one input arguments and may return more than one output arguments Syntax of a function statement is:

```
function [out1,out2, ..., outN] = myfun(in1,in2, ..., inN)
```

It is important to note that you should not name your own functions the same as the built-in Matlab functions. Further, make sure that you have a folder where you place your own functions, maybe even with sub-categories, and add this path in your main script file where you want to execute your function. If you would like to consult some more examples have a look at

```
http://www.tutorialspoint.com/matlab/matlab_functions.htm
```

1.1 Function m-file

Exercise 1: Write a function that computes the hypotenuse and the sum of the sides of a right angled triangle.

Exercise 2: Write a function that does Exercise 1b (sum of geometric series) of Session 7.

Exercise 3: Write a function that takes the test scores of 100 students (from 0 to 100 points) and produces a distribution of grades (1 to 6) according to your preferences.