

Functions

A function is a statement which will perform the task described for it. In Matlab, you can write your own functions and save them to reuse. However, the function files must be in the local workspace in order to be loaded in the Matlab.

The syntax of a function statement is:

```
function [out1,out2, ..., outN] = myfun(in1,in2,in3, ..., inN)
```

Example

You can create a function file in Matlab by clicking on the new button on the upper left corner -> Script

Now type in the following code:

```
function max = mymax(n1, n2, n3, n4, n5)
%This function calculates the maximum of the
% five numbers given as input
max = n1;
if(n2 > max)
    max = n2;
end
if(n3 > max)
    max = n3;
end
if(n4 > max)
    max = n4;
end
if(n5 > max)
    max = n5;
end
```

Save it with the name, **function1.m** or whatever name you like, but the file extension type should be **“.m”**.

Note that there is the keyword function in the first line of the code, it is the beginning of the function declaration. In this example, the function will take 5 inputs and return 1 output. The sentences after the “Percent sign” means they are comments for the function.

After you have typed the codes from above and saved on your *local workplace*.

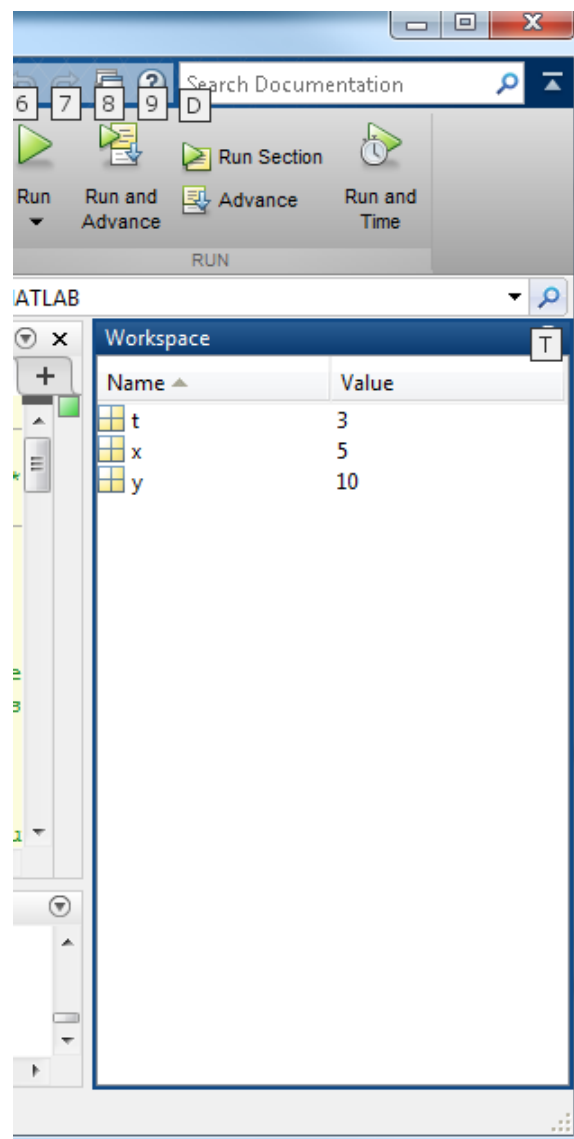
The local workplace in Matlab is a session that includes the variables you have created and stored in memory during the using of Matlab. You can find the Workspace window on the right side of Matlab window. For example, if you run these statements:

```
x = 5;
```

```
y = 10;
```

```
t = 3;
```

The workspace will look like this:



You can also select variables to view, modify, or plot in the workspace browser. If your workspace browser is currently not visible, you can turn it on by simply type: workspace at the Command Window prompt.

You can execute the saved ***mymax*** function with your parameters by typing the following in the Command Window:

```
mymax(34, 78, 89, 23, 11)
```

The result returned will be:

```
ans = 89
```