A test file named *‘testDCA.m’* is available in the current directory that runs a sample implementation of the DCA algorithm.

There is only one function **DCA()**. This function calls an m-file **DCA\_initialization.m** that is needed to initialize the parameters of the DCA algorithm.

The detail of the function is provided below.

[*rDCA*] = **DCA(***DualSensorDATA, IC, TimeWindow, MigrationThreshold, Threshold***)**

The necessary input arguments for this function are as follows:

* *DualSensorDATA* : Redundant measurements data.
* *IC*: Inflammatory signal that is ignored in most cases. If not provided, *IC = 1*.
* *TimeWindow*: Size of the time window of DCstore that is used to indicate the status of the DC at previous time samples. If not provided, *TimeWindow = 10*.
* *MigrationThreshold*: The threshold that determines the maturation of a DC based on the DC output (main equation). By default, *MigrationThreshold = 1*. There is no need to change this variable, unless there is a strong justification.
* *Threshold* : A variable against which the number of matured DC (NummDC) is checked. This variable can be changed in order to improve the performance. If not provided, *Threshold = 8*.

The only output argument of this function is *rDCA* that consists of residuals for both sensors.