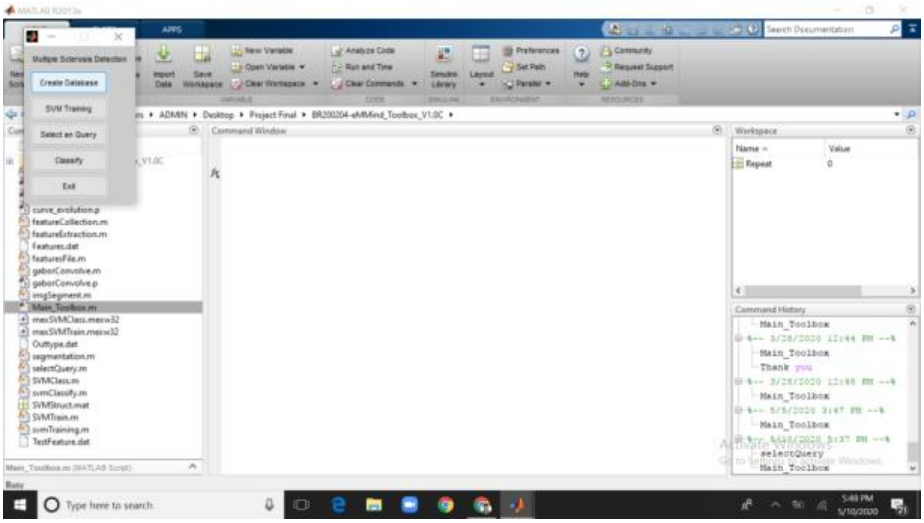
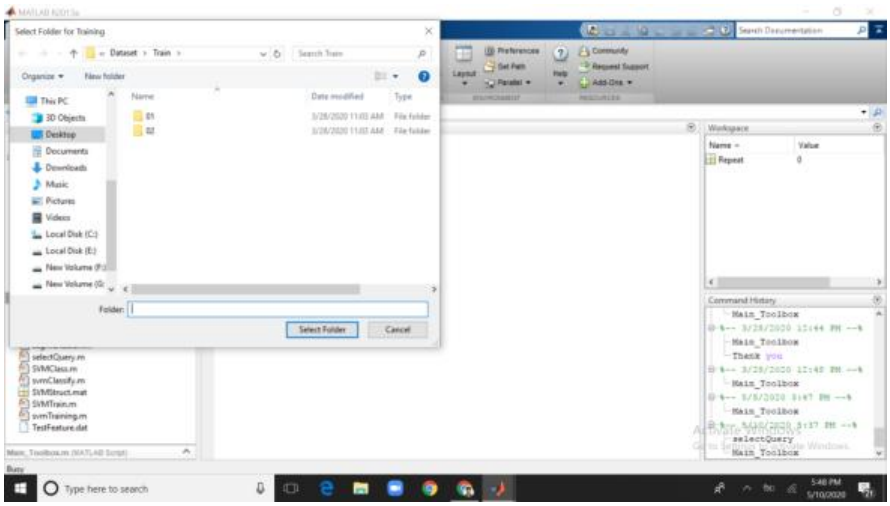
PROCEDURE TO RUN THE CODE IN MATLAB 2013

Initially, we have to create a database to train the system.



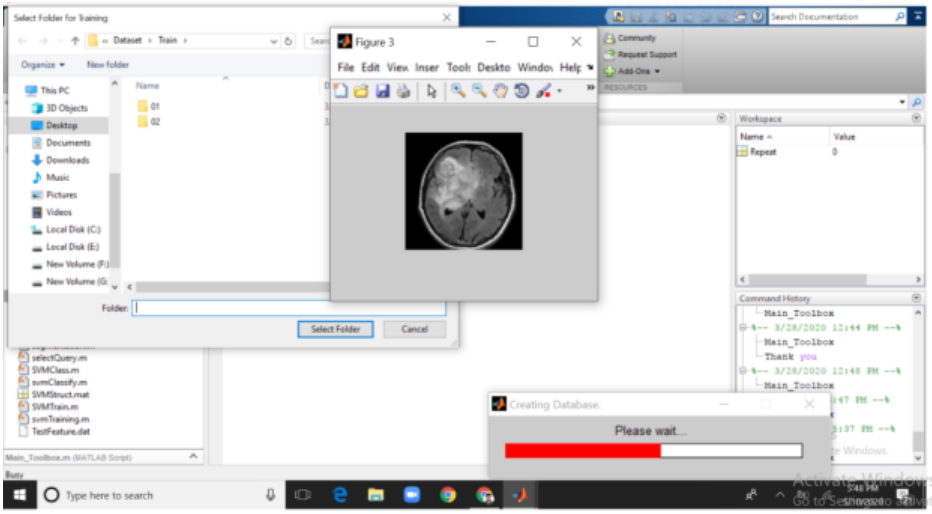
Click on the Create Database option from the main toolbox.

Once after clicking the Create Database option you will be directed to the dataset folder, later we have to select the Train folder.

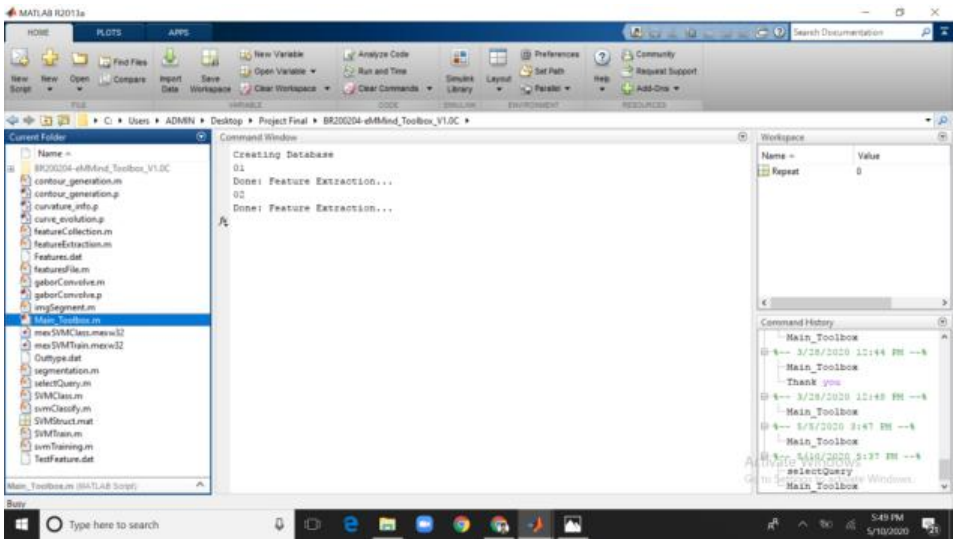


Select the Train folder from the Dataset folder.

After selecting the train folder, the database will be created.



(a)

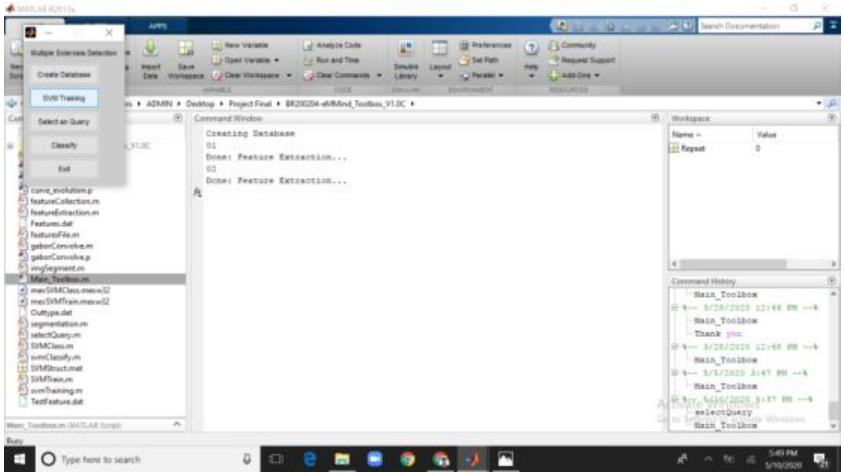


(b)

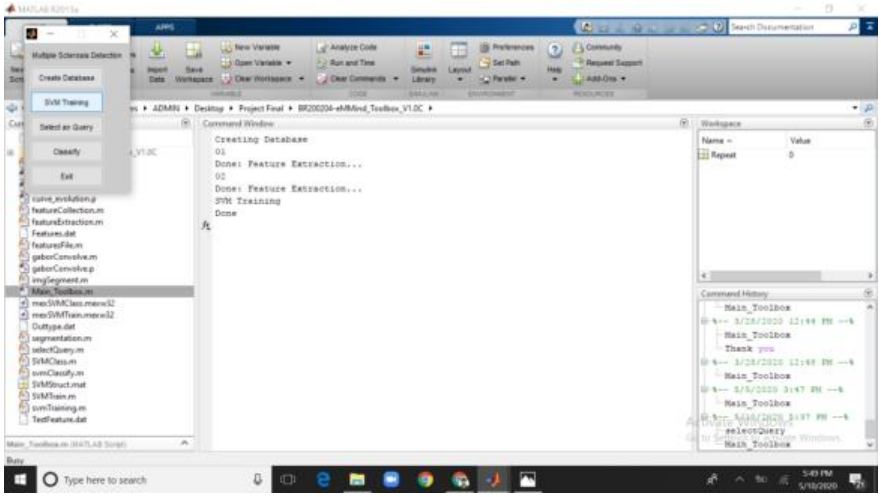
(a) & (b) Database Created and Features are Extracted.

Now, that database is created. We will train the system by clicking on SVM Train option in the main toolbox.

Once the training is completed.



Click on SVM Training option.



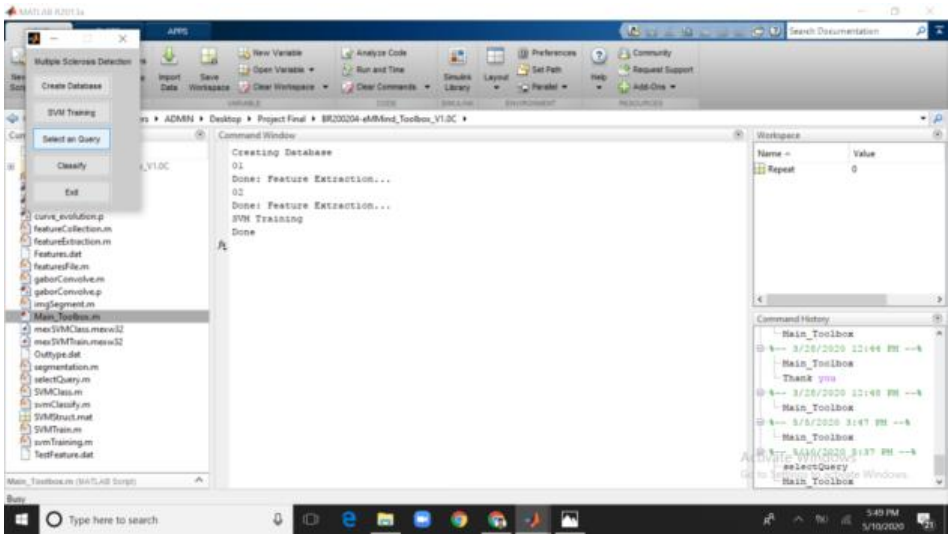
SVM Training completed.

After completing the training, now we will move to the testing of our dataset.

TESTING ON MULTIPLE SCLEROSIS AFFECTED BRAIN MRI DATASET.

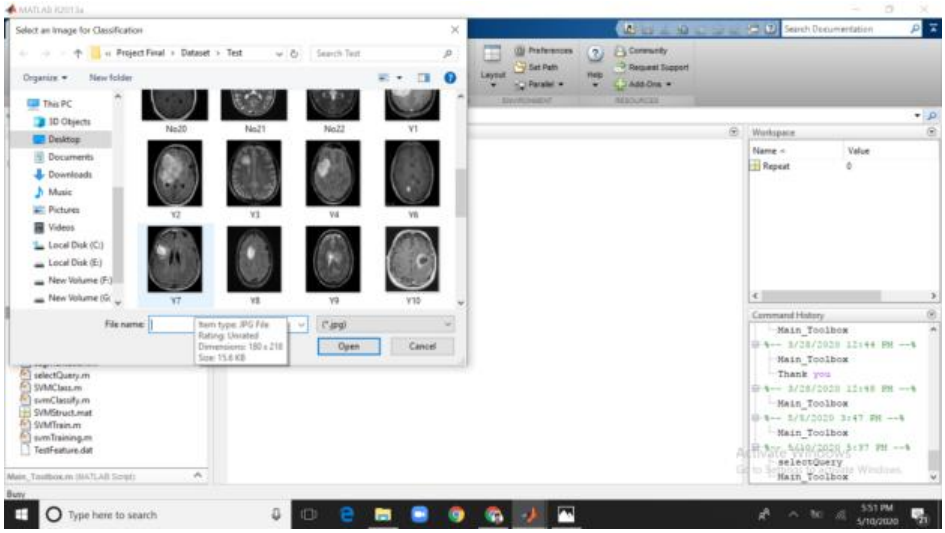
Testing the datasets named Y*, as mentioned in data collection section consists of the data which are related to Multiple Sclerosis affected Brain MRI.

We have to select the Select Query option from Main toolbox. The Select Query option is used for selecting the image to be tested.



Click on Select Query option from Main Toolbox.

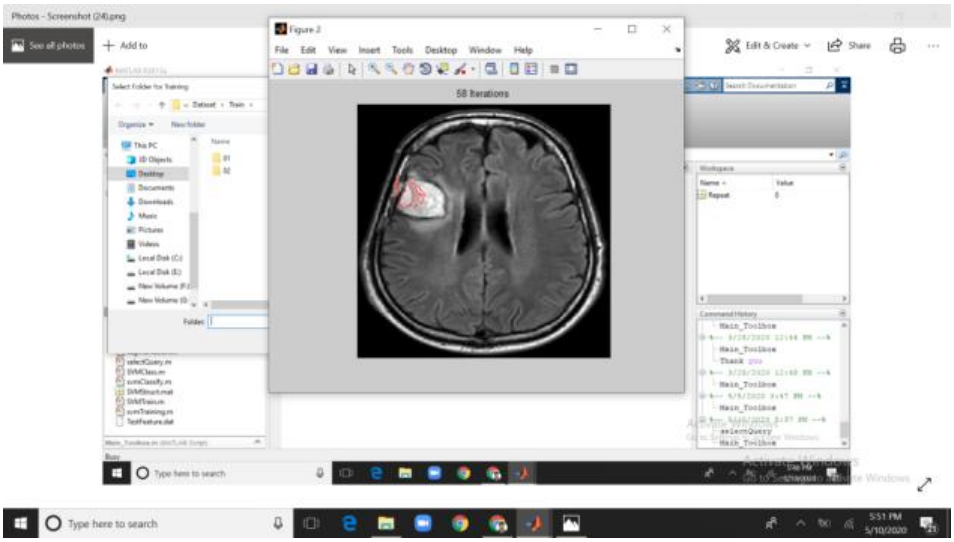
The dataset file appears where the testing dataset is stored in Test folder. Select the image to be tested.



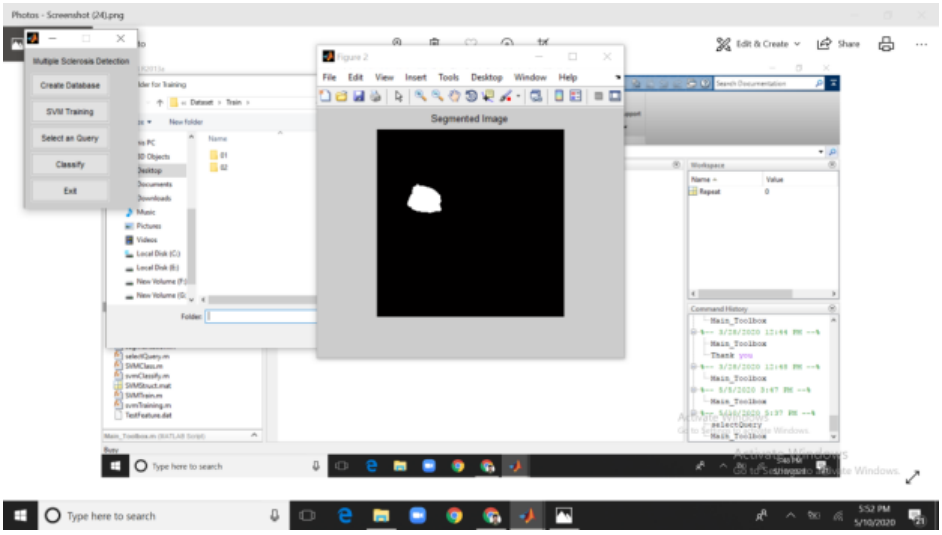
Select the image Y* which has to be tested.

For example, here we have selected the image Y7.

Now, we perform Segmentation using Region Growing Algorithm.



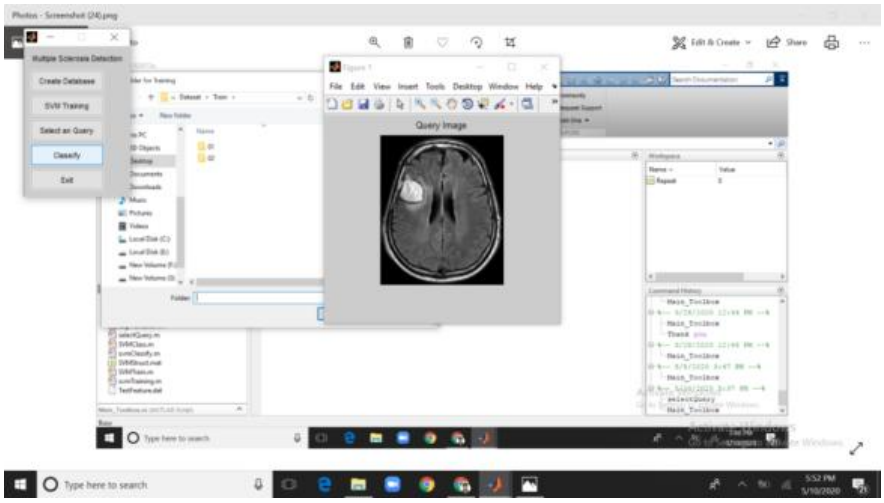
Region Growing Segmentation under execution.



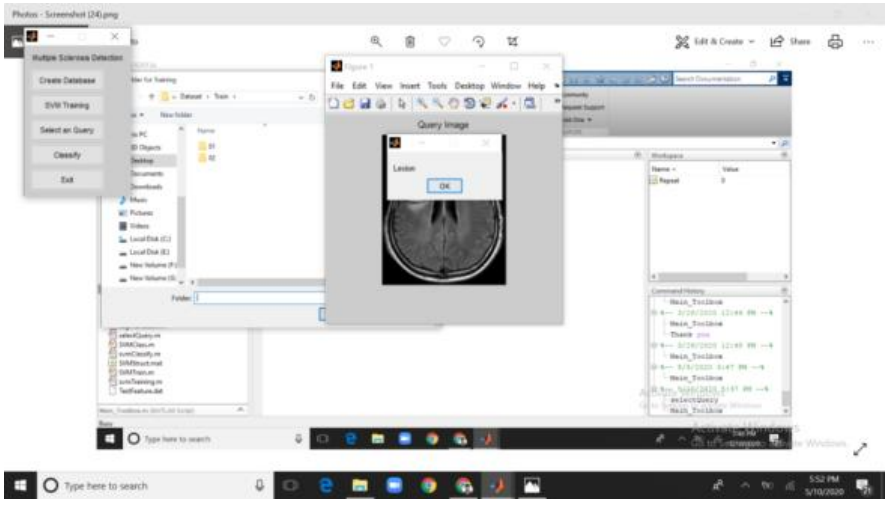
Segmented Image.

Classifying the Query as a lesion or not using SVM.

Select Classify option from Main Toolbox.



Select Classify option from Main Toolbox.



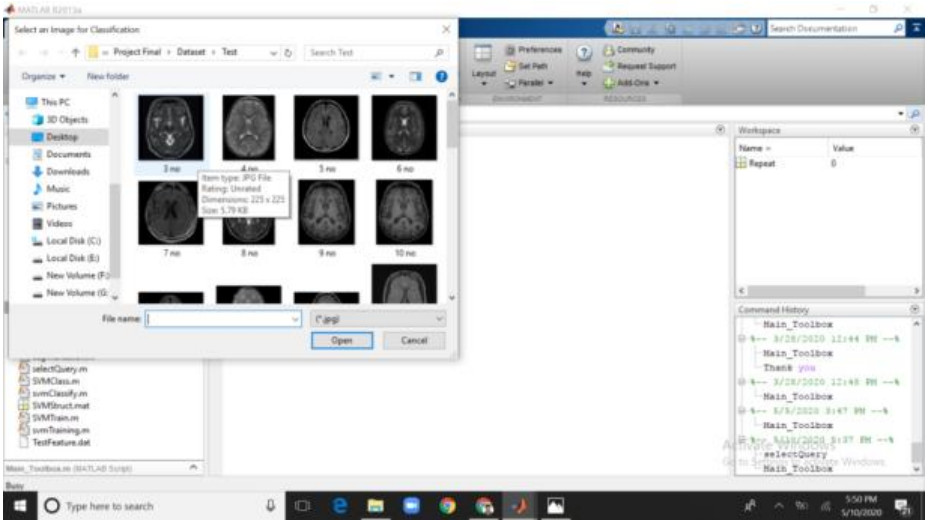
After the classification, the result will be displayed as it is a lesion or normal.

In the example we had considered, it is a lesion.

TESTING ON NORMAL BRAIN MRI DATASET

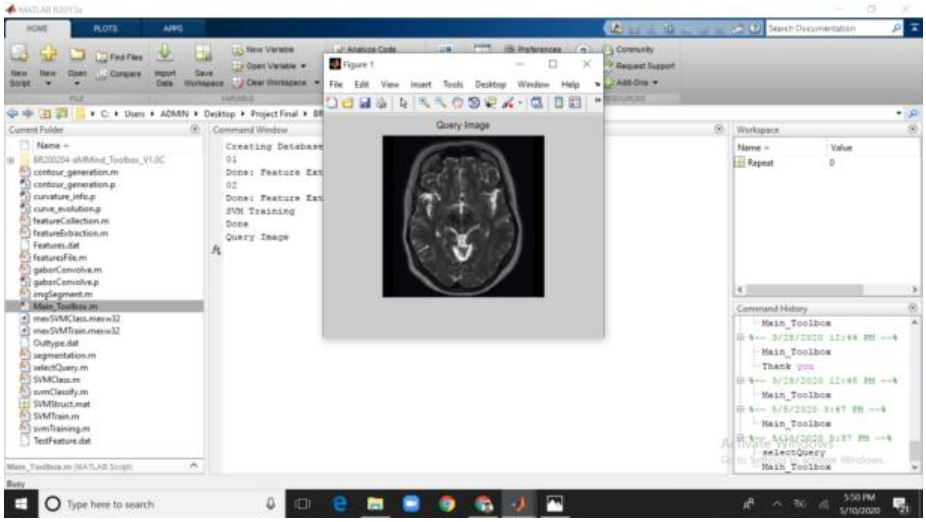
Testing the datasets named *no, as mentioned in data collection section this data are related to Multiple Sclerosis affected Brain MRI.

The procedure remains the same as above, but while selecting the query we select the image with name *-no for testing. For example, here we have considered 3 no for testing.



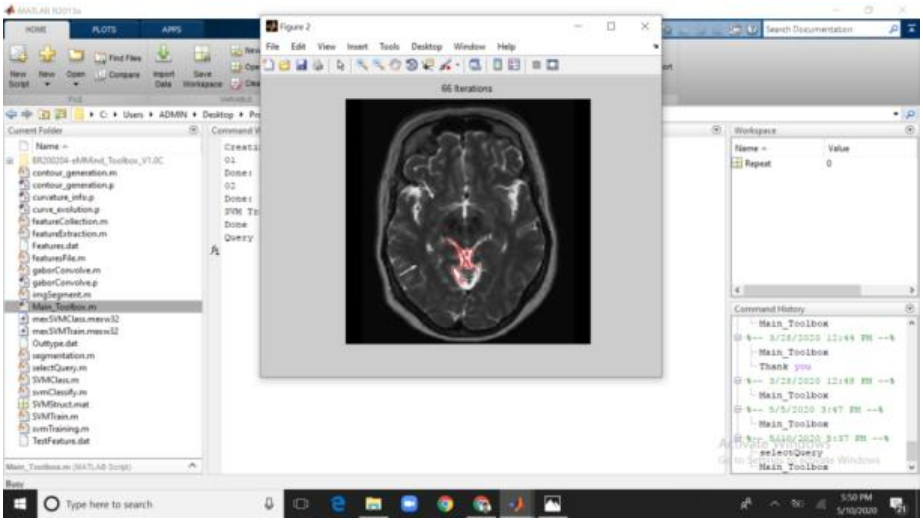
Select the image *no.

For example, here we have considered 3 no.

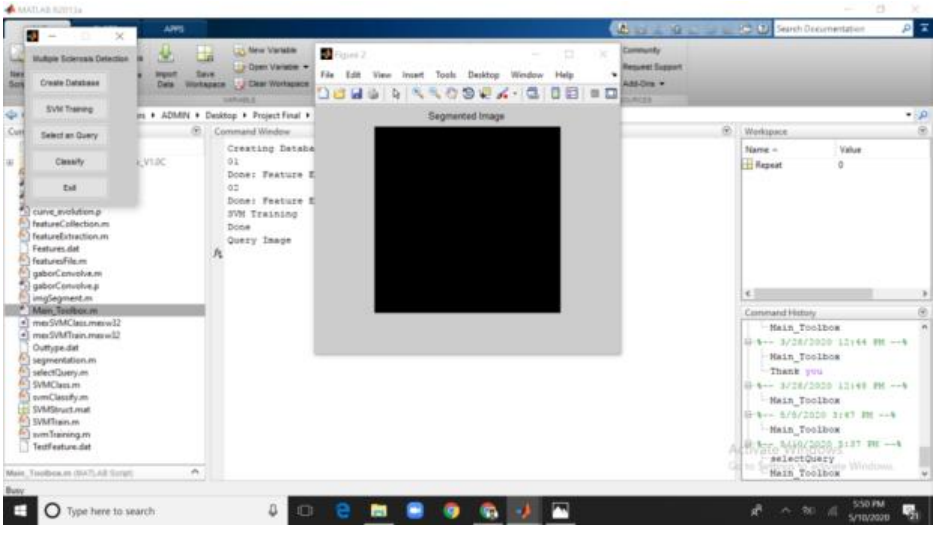


Selected query or the image.

The Segmentation,



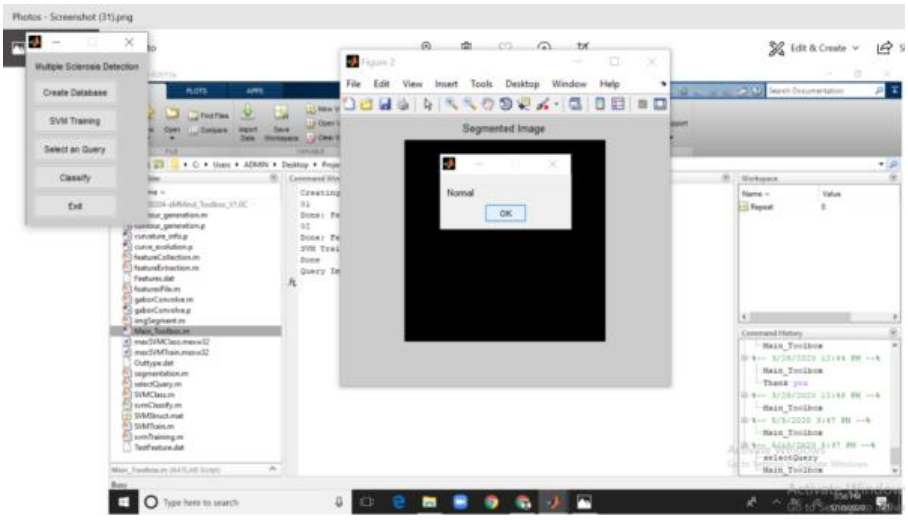
Region Growing.



Segmented image.

Here in the considered example, there is no traces of any lesion hence the segmented image is blank.

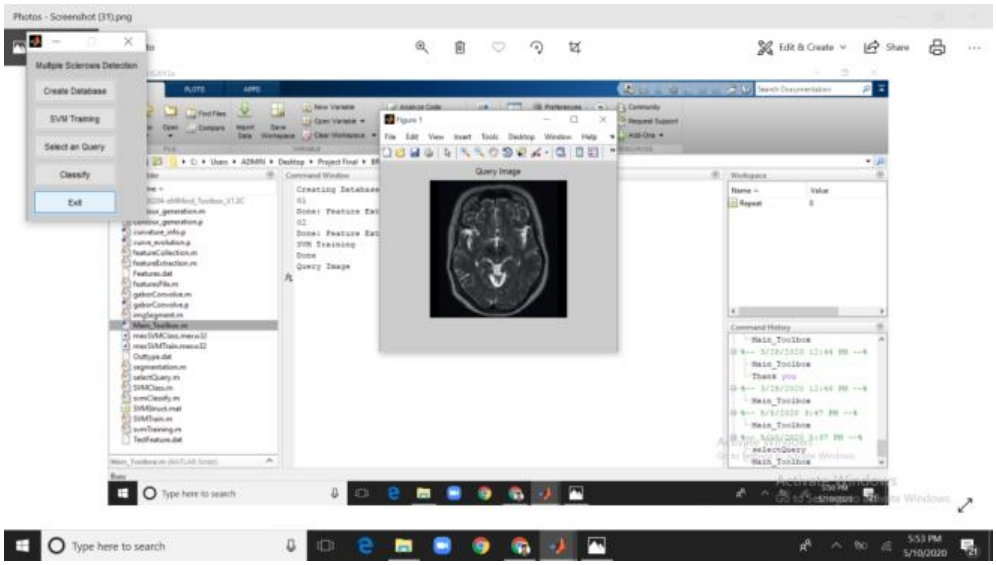
Classify,



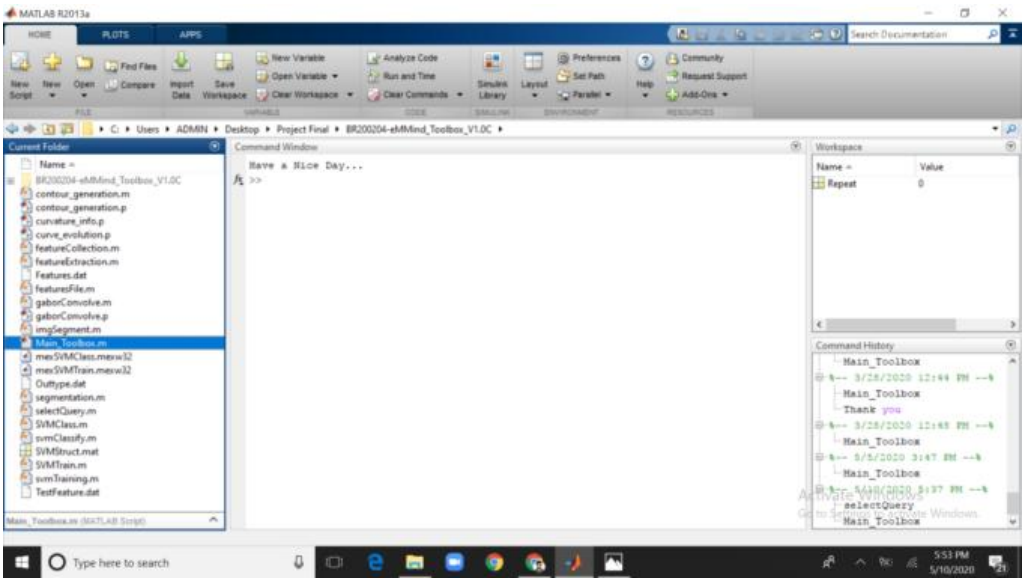
Classified as Normal.

As in the considered example, there were no traces of any lesion.

Once all the Methodologies are completed, we can select EXIT from the Main Toolbox.



Select Exit.



The Program terminates.