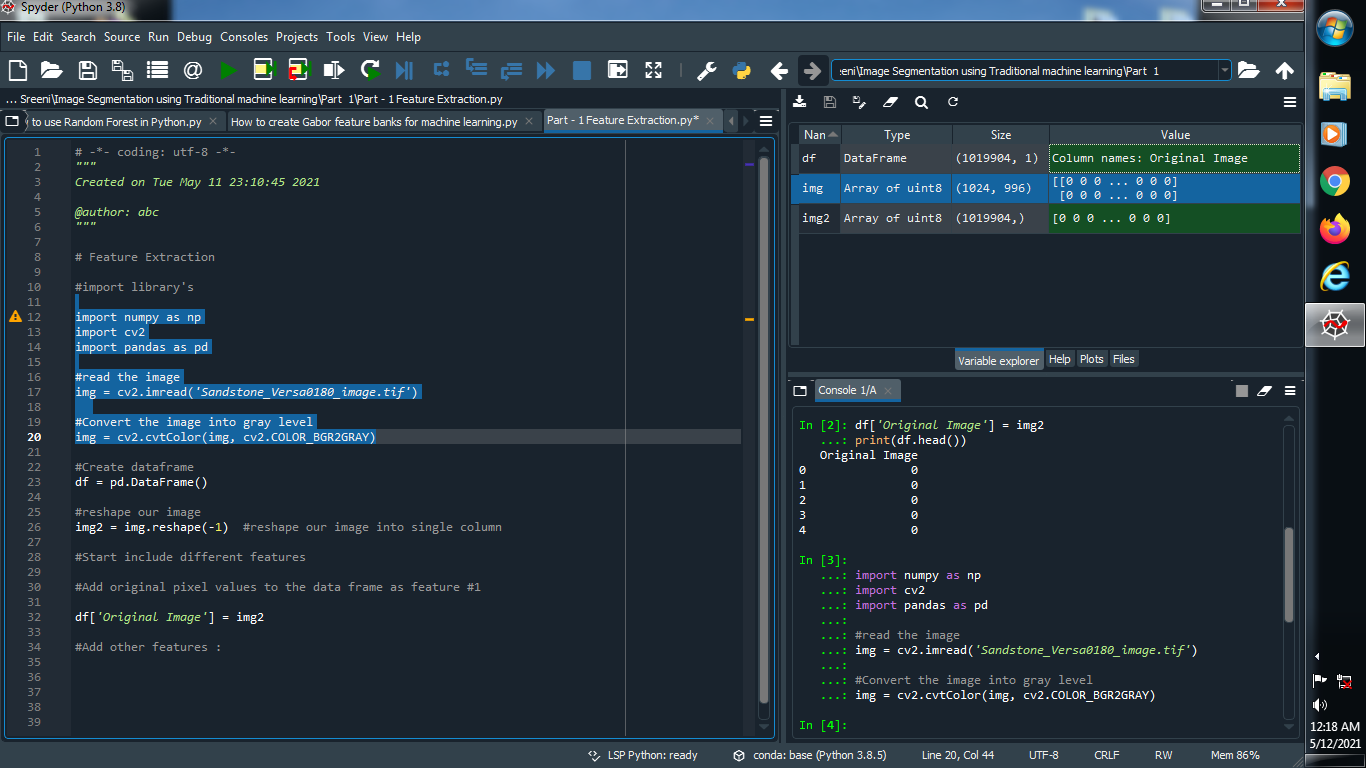
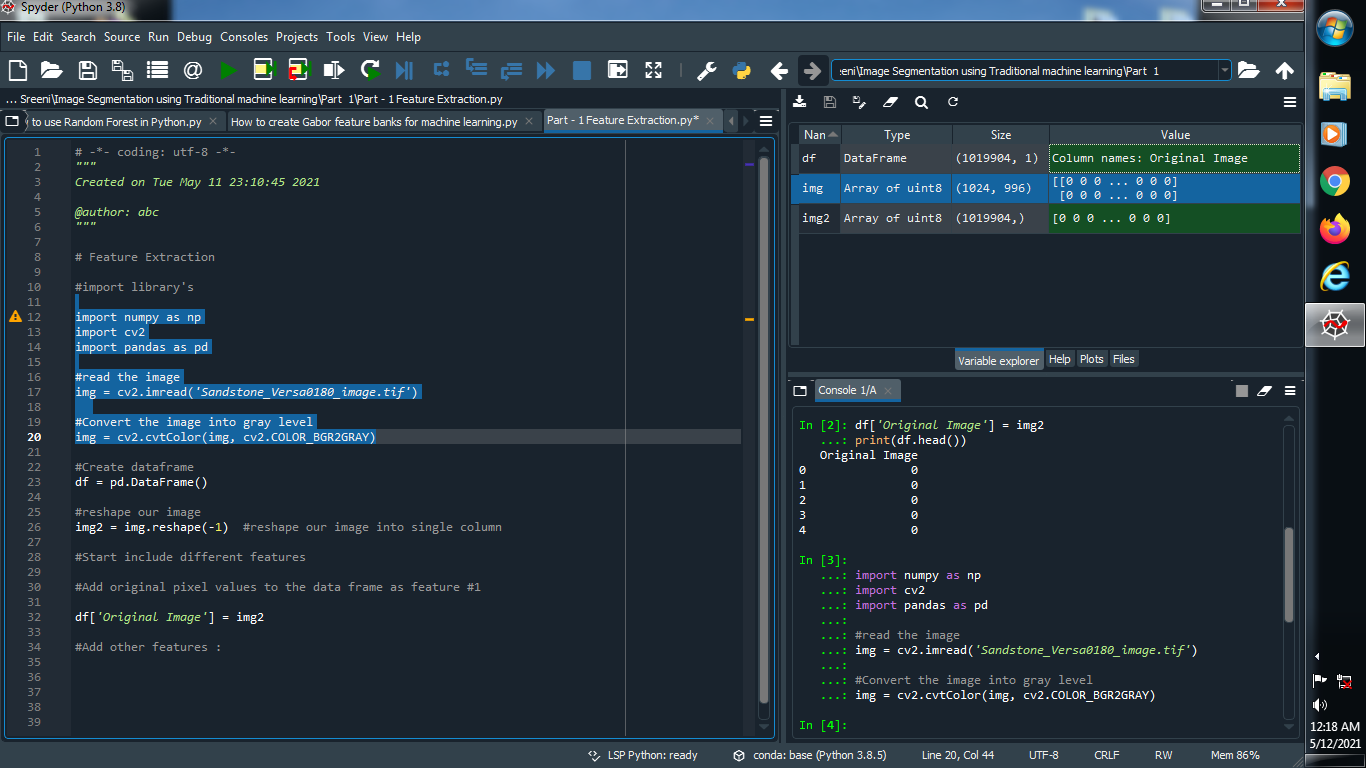
Part : 1 Feature Extraction

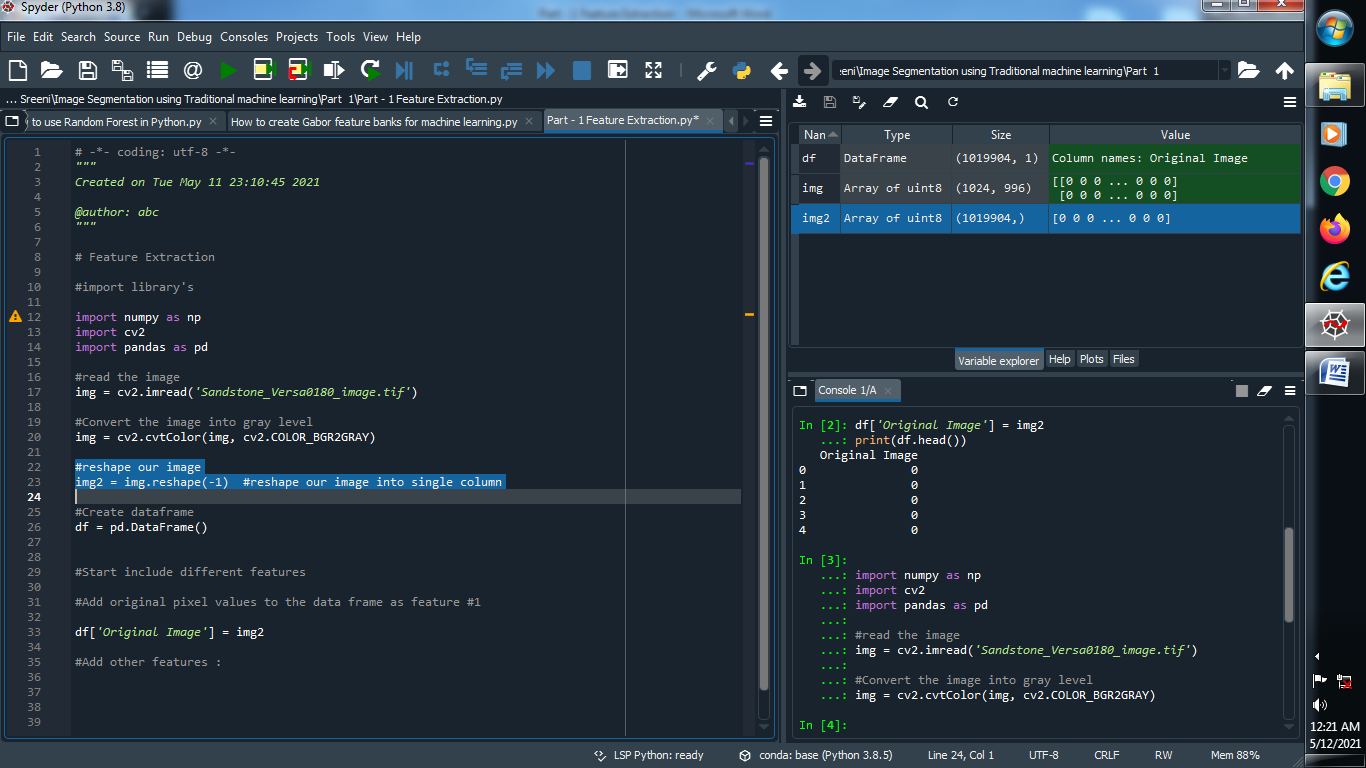
(1) Read the image and Convert it into gray level image :



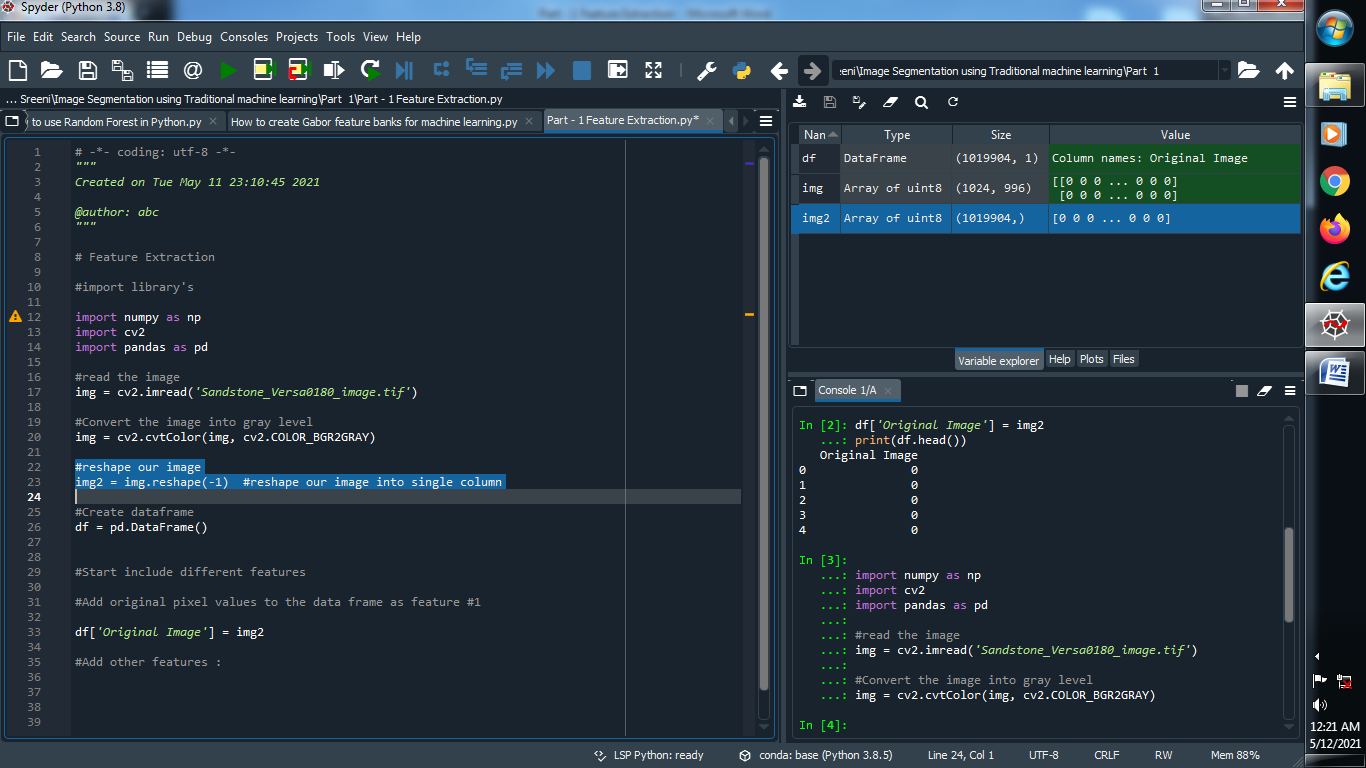
Output :



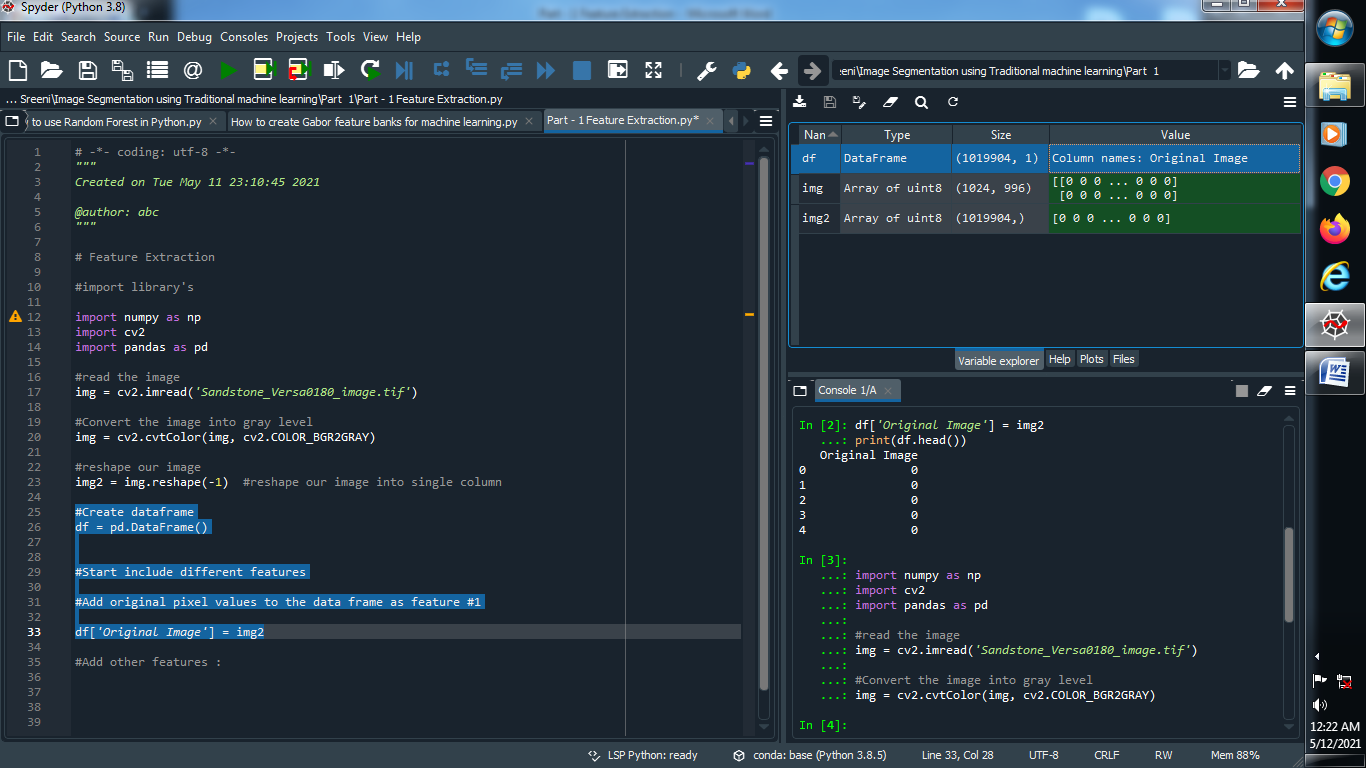
(2) Reshape our image into single dimension :



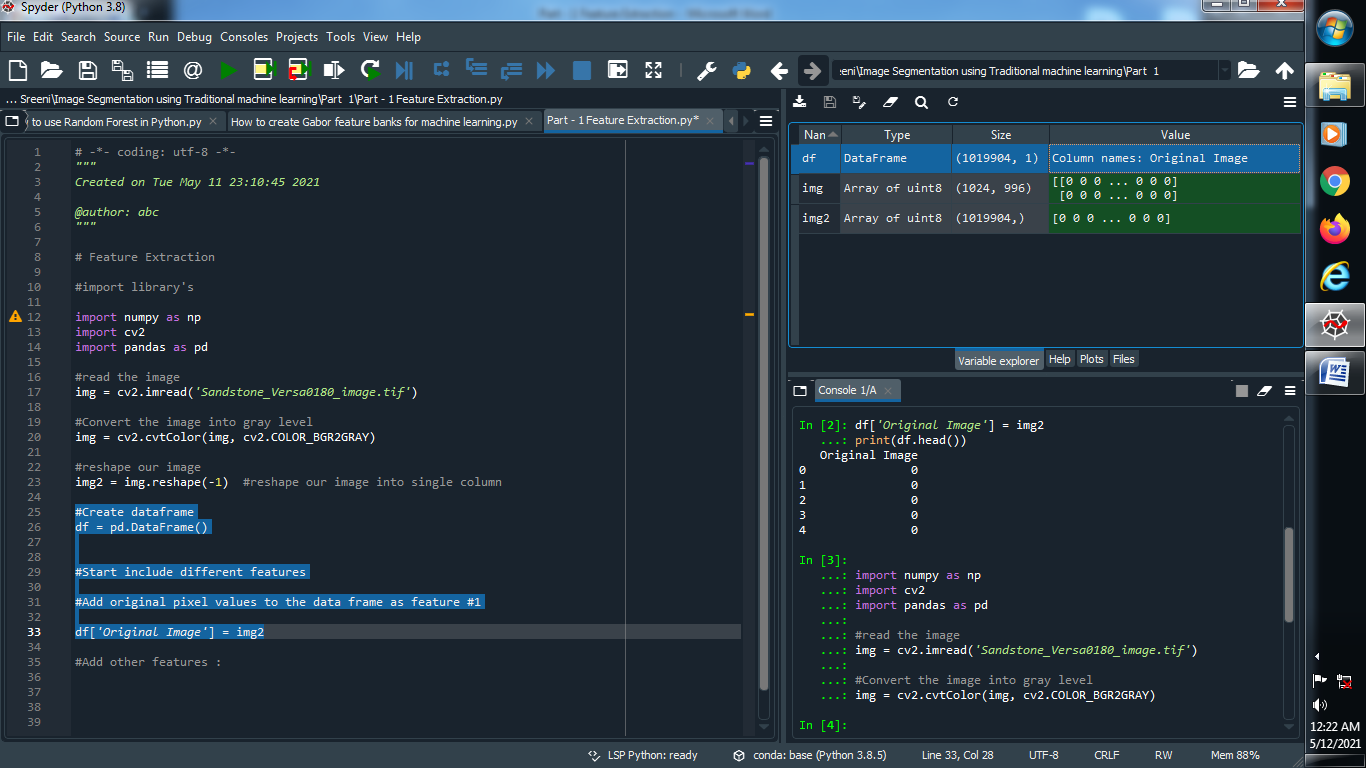
Output :



(3) Create one dataframe and named it’s column name :

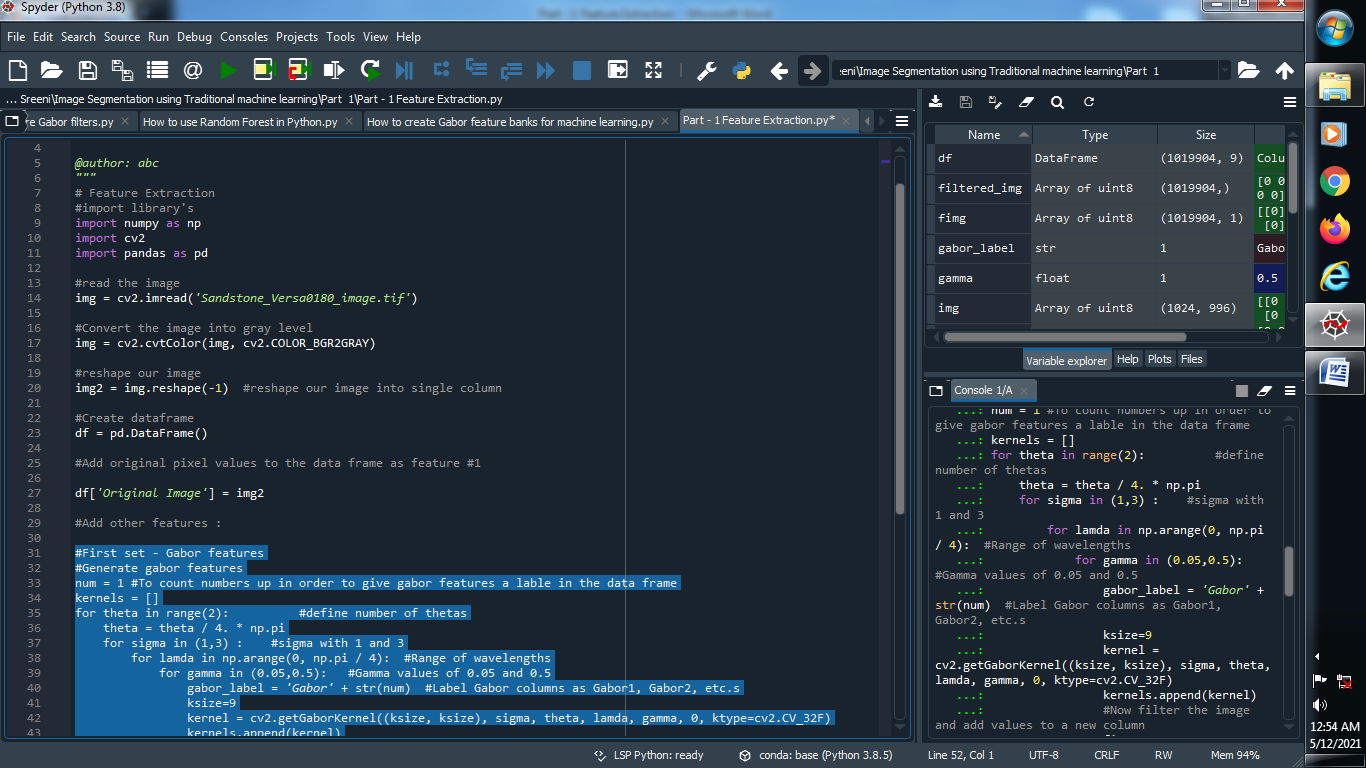


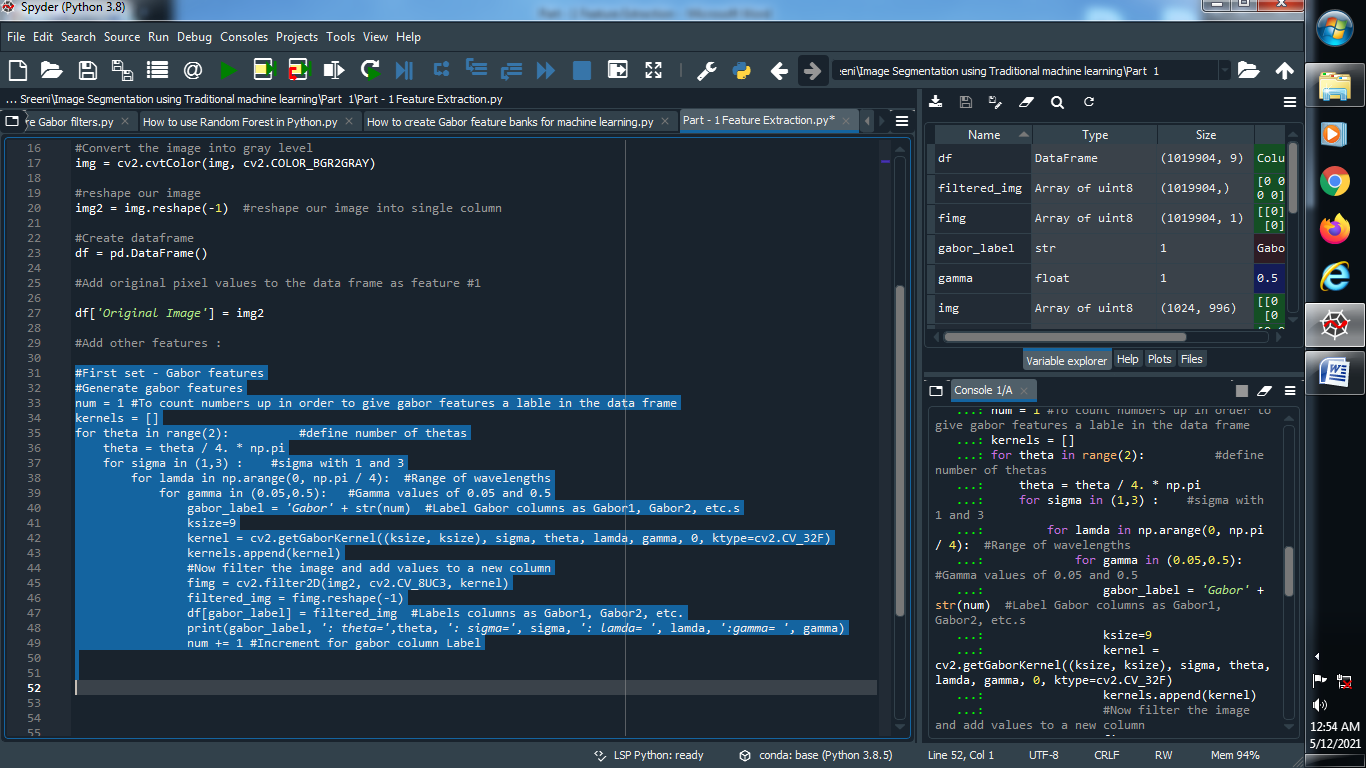
Output :



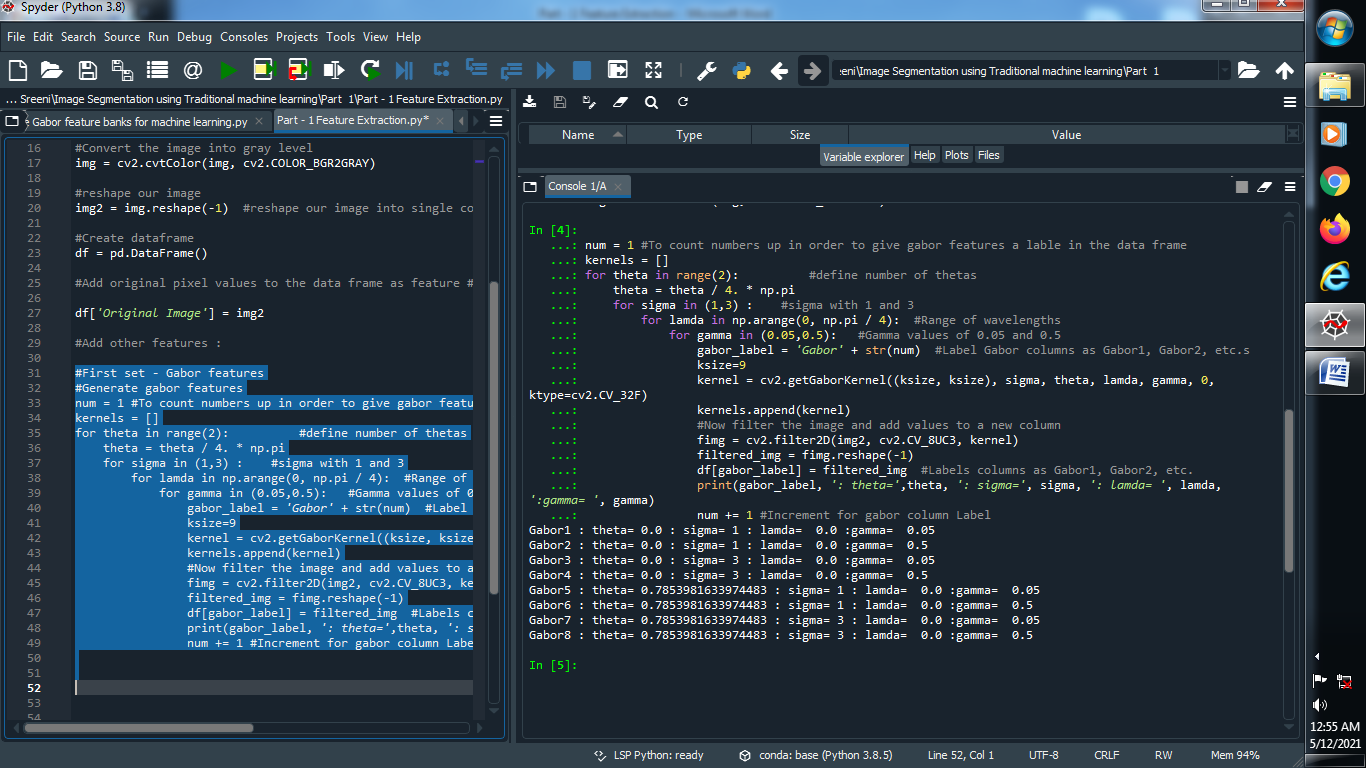
(4) Add another features :

(I) Gabor features :

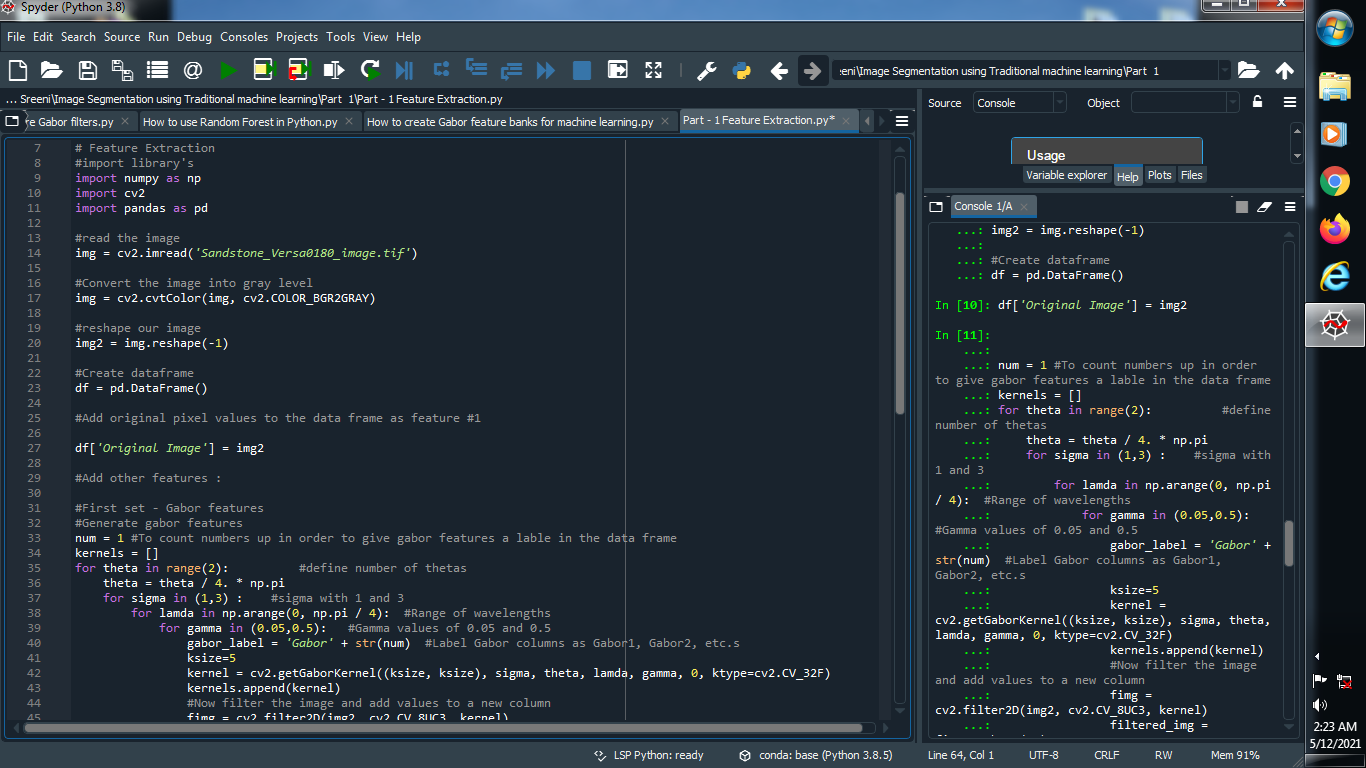


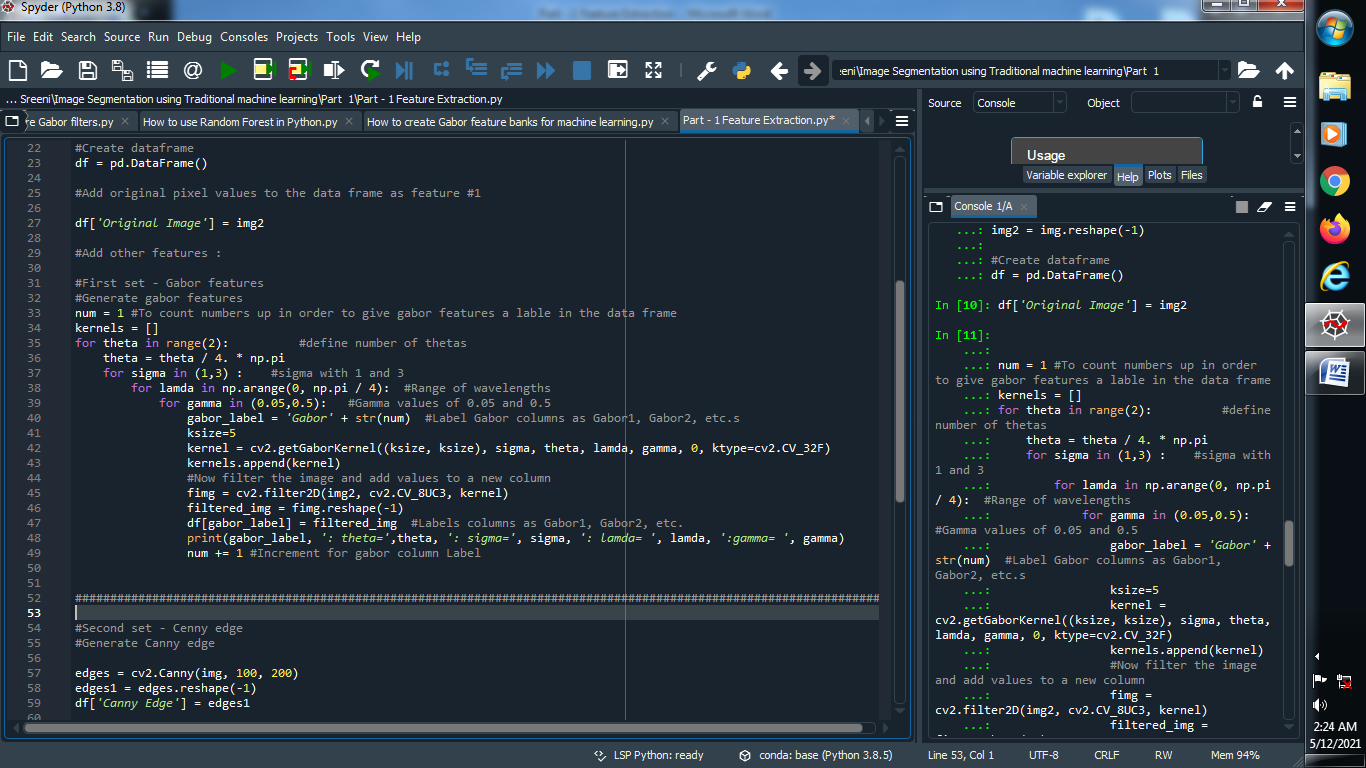


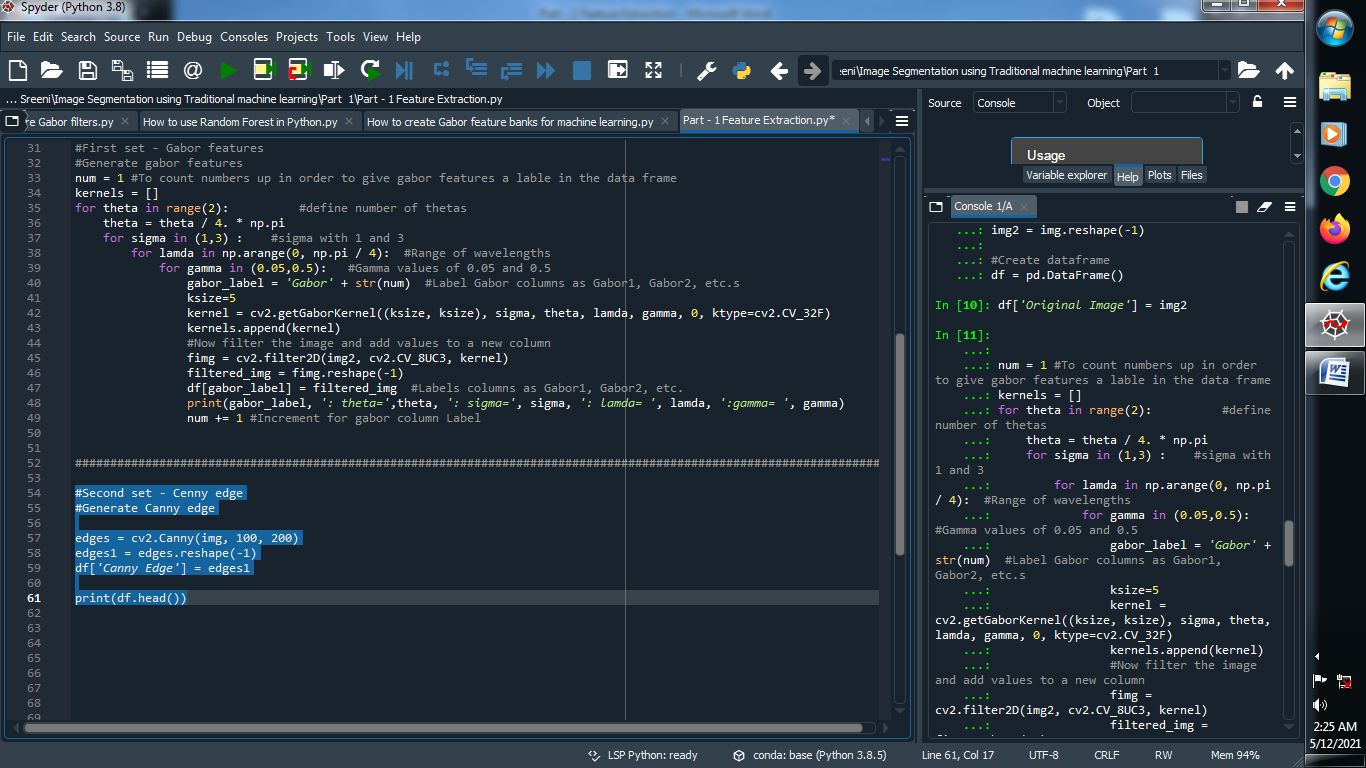
Output :



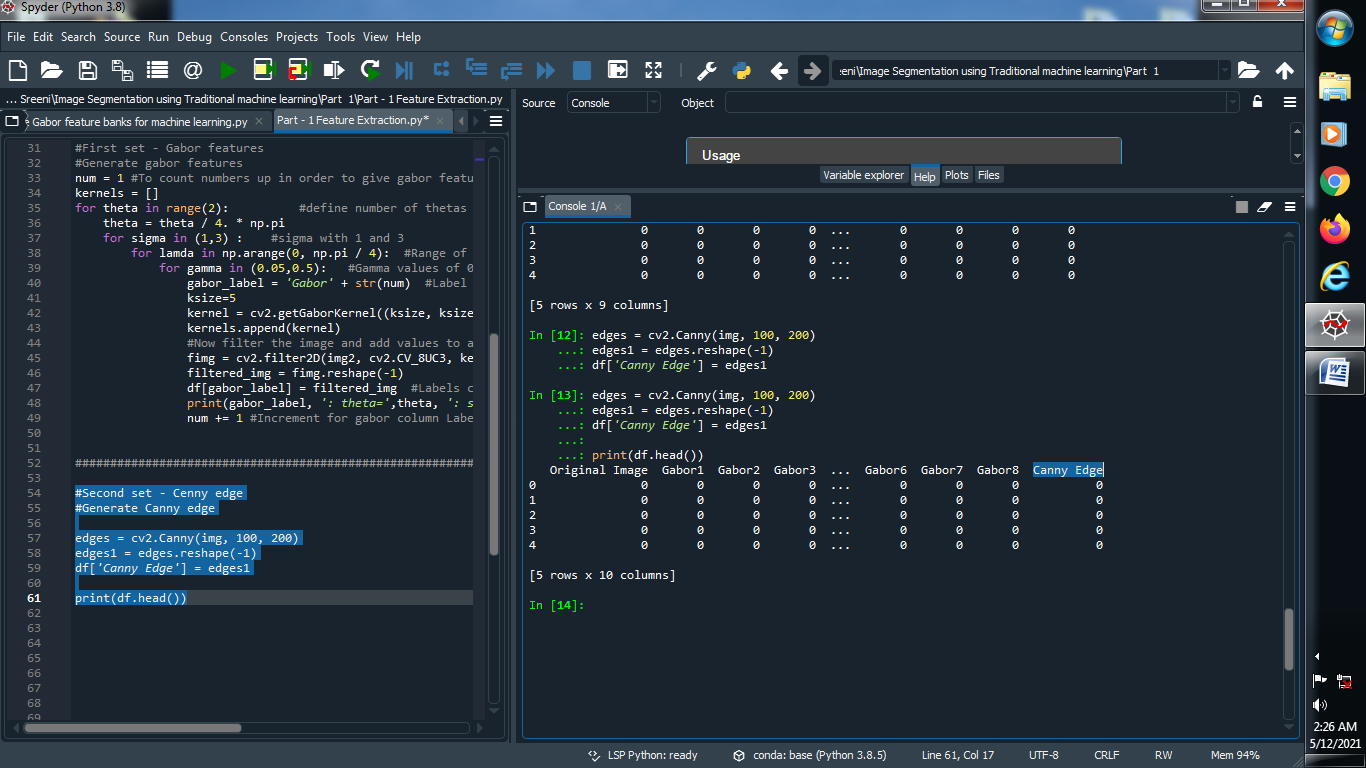
(II) Apply Canny Edge filter :



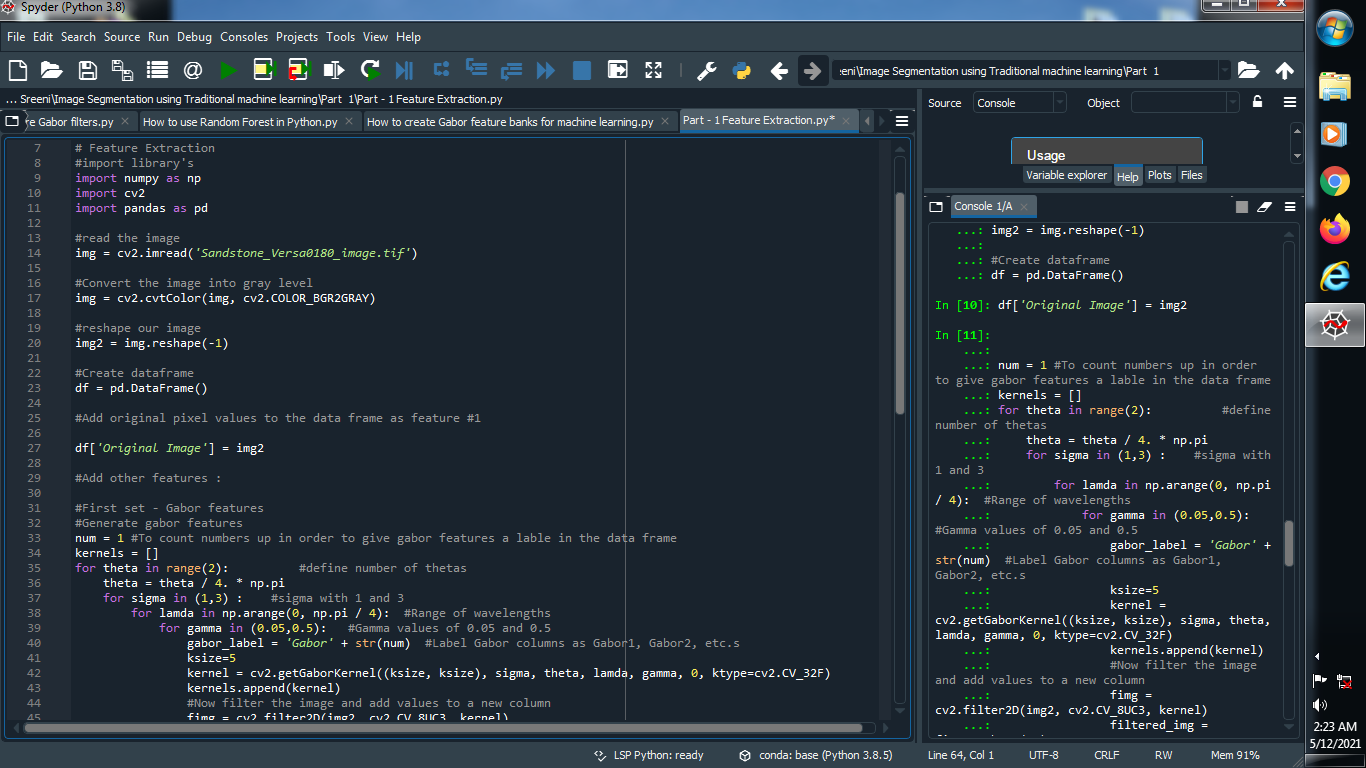


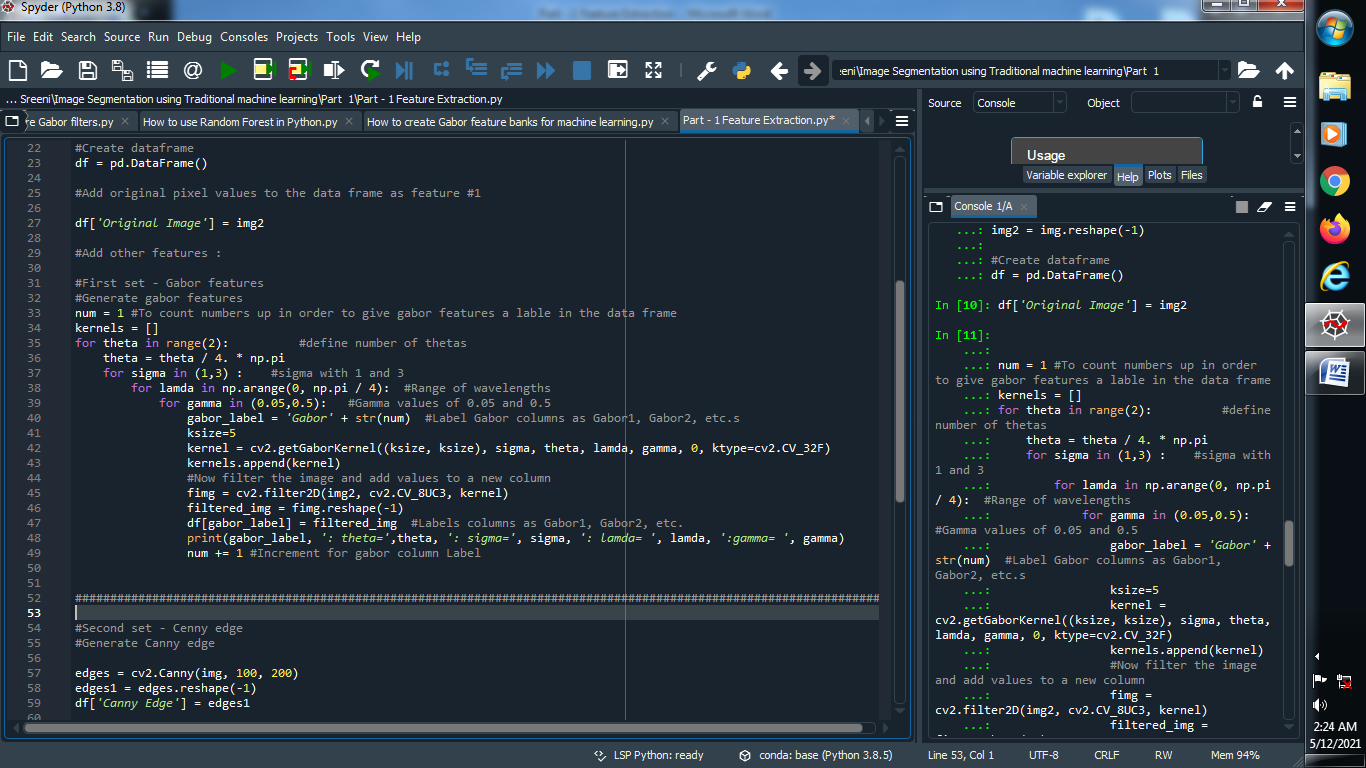


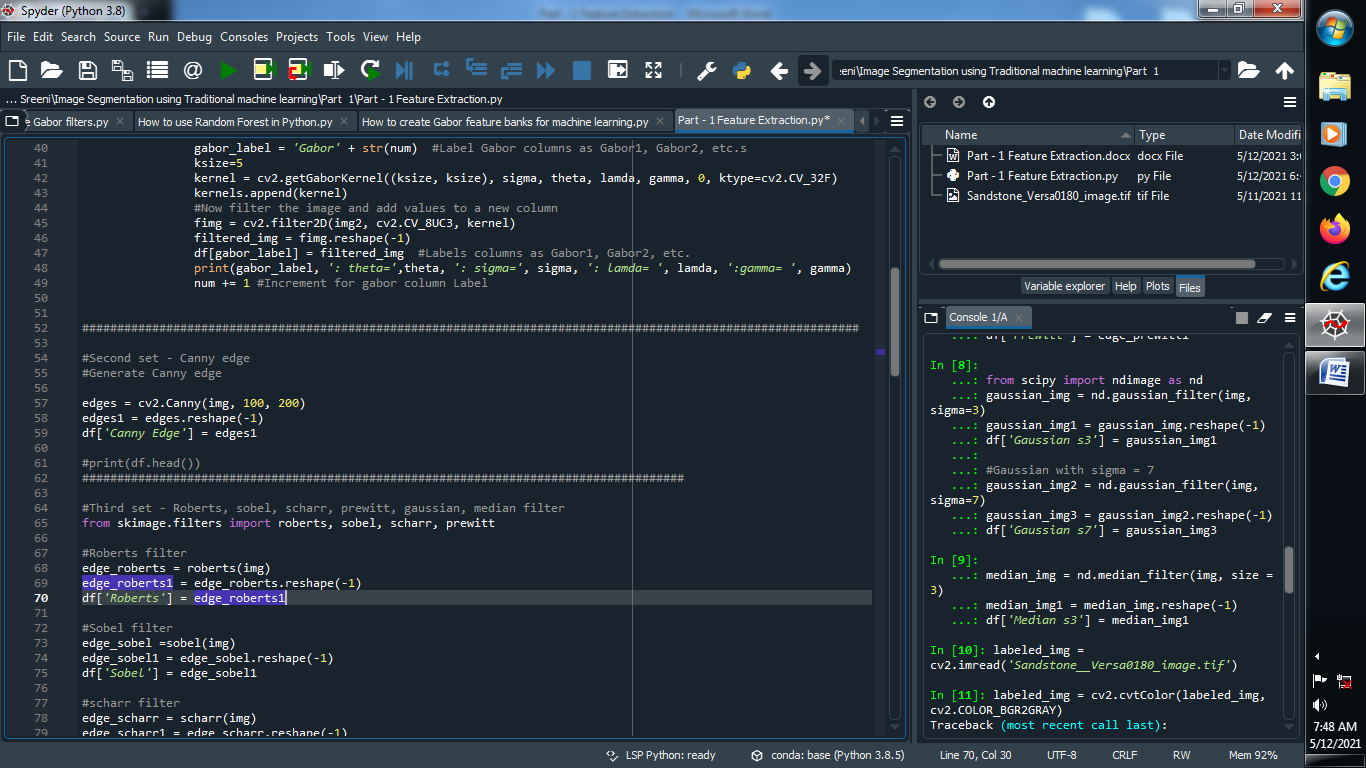
Output :

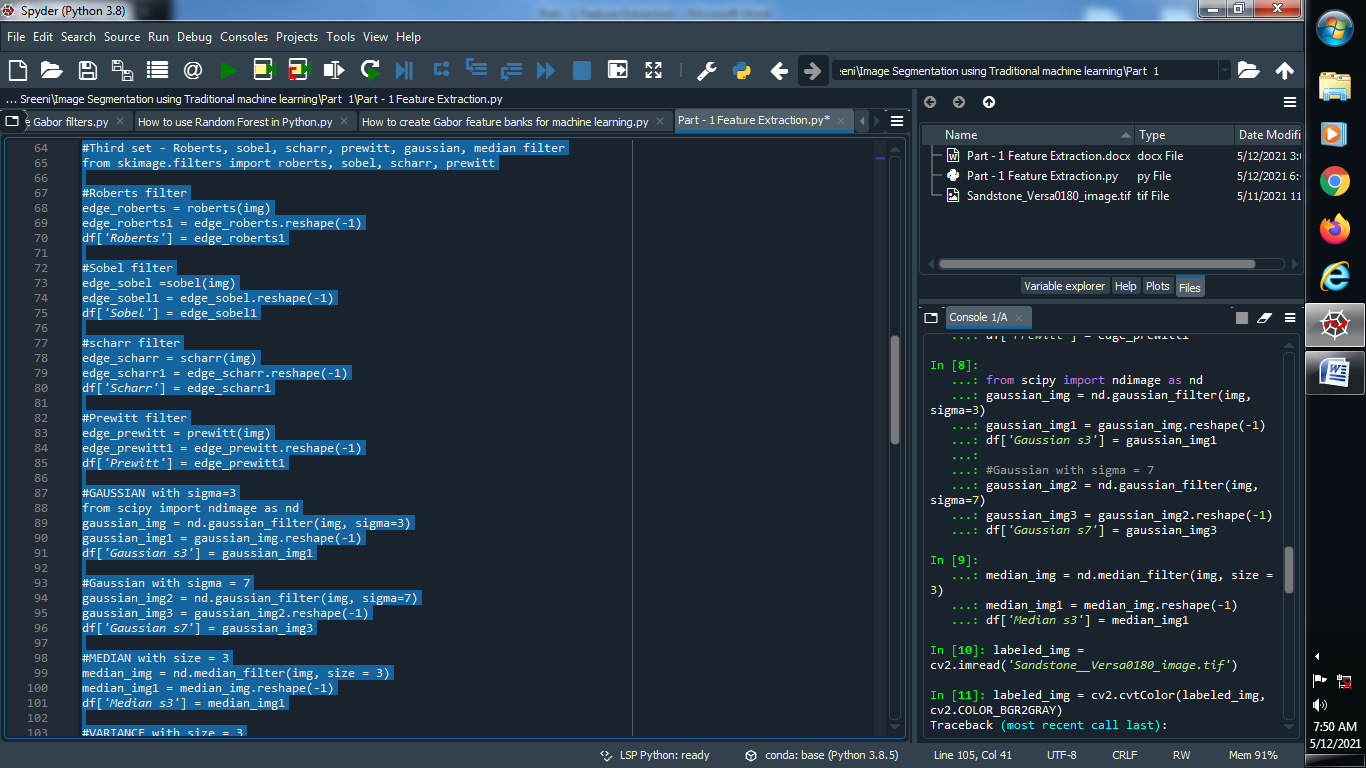


(III) Apply Roberts, sobel, scharr, prewitt, gaussian, median filter :

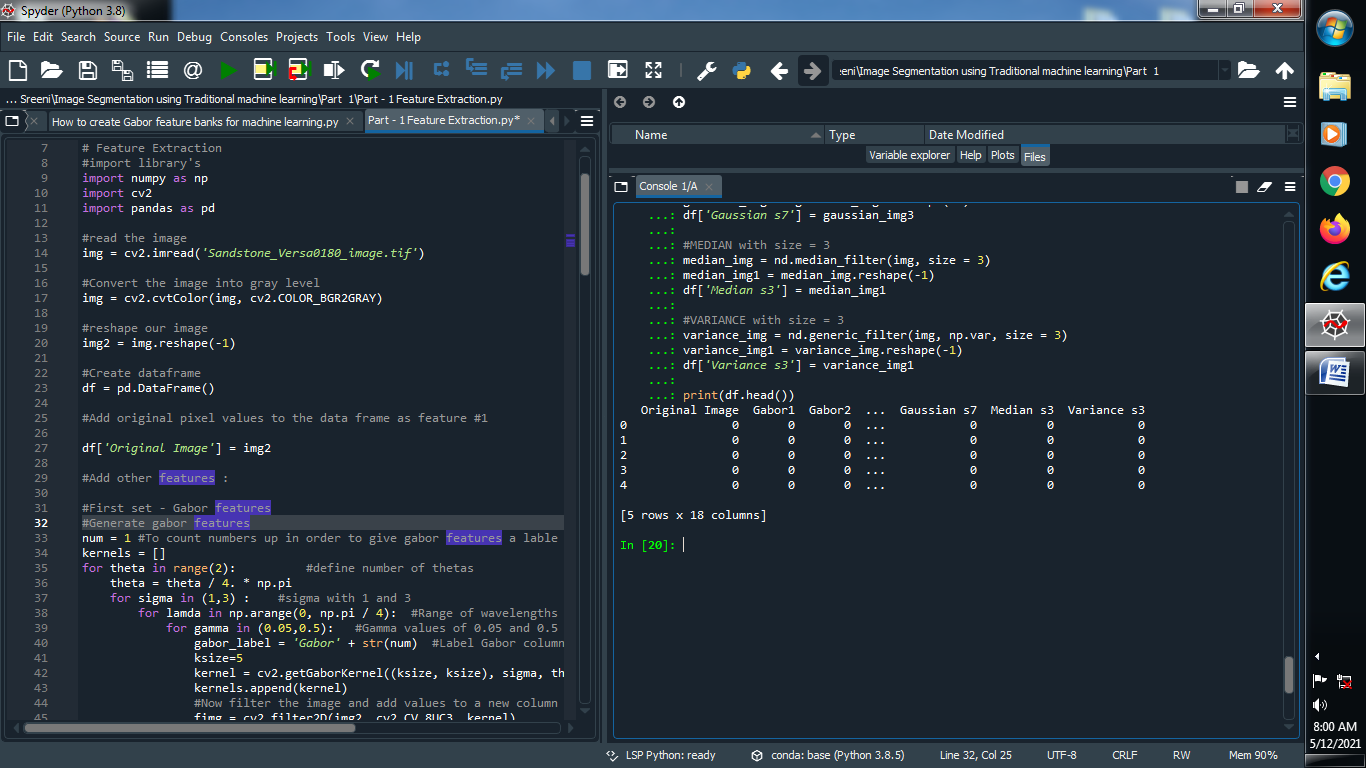




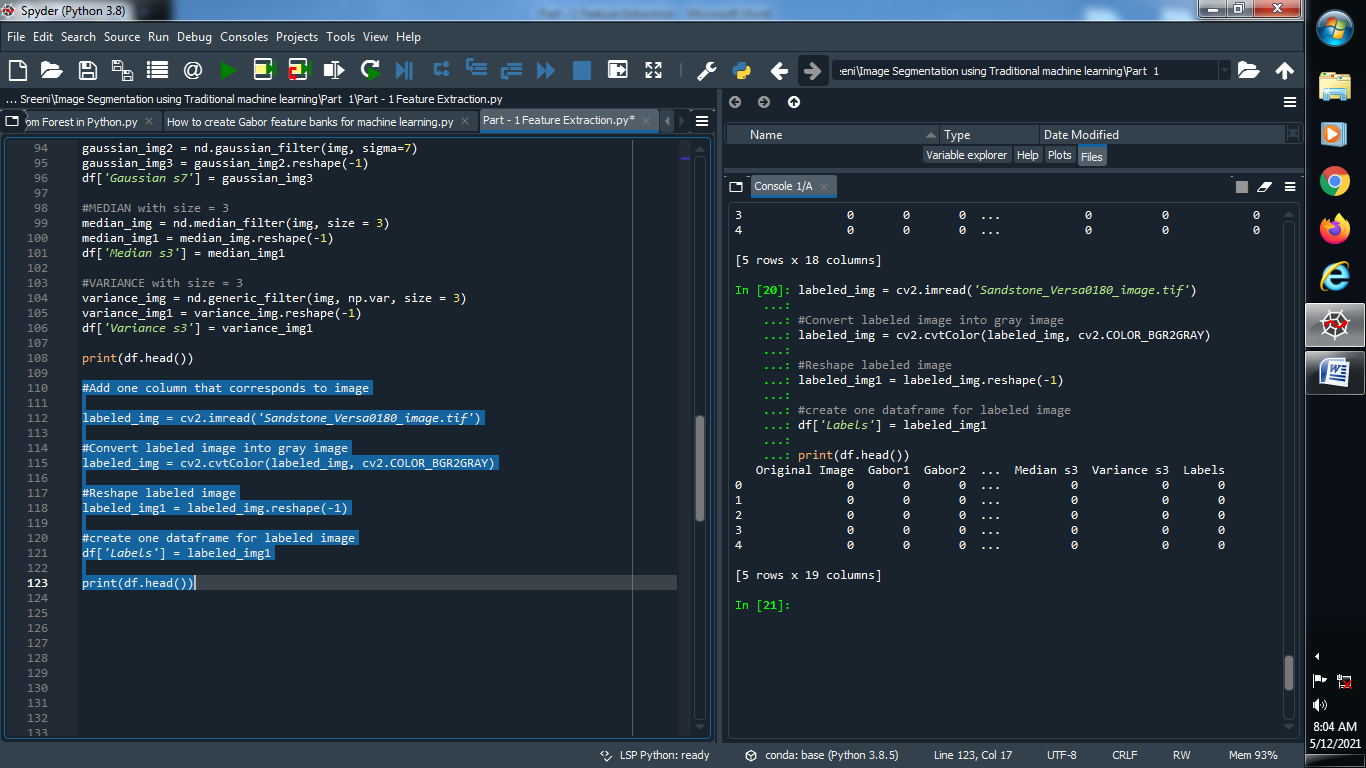




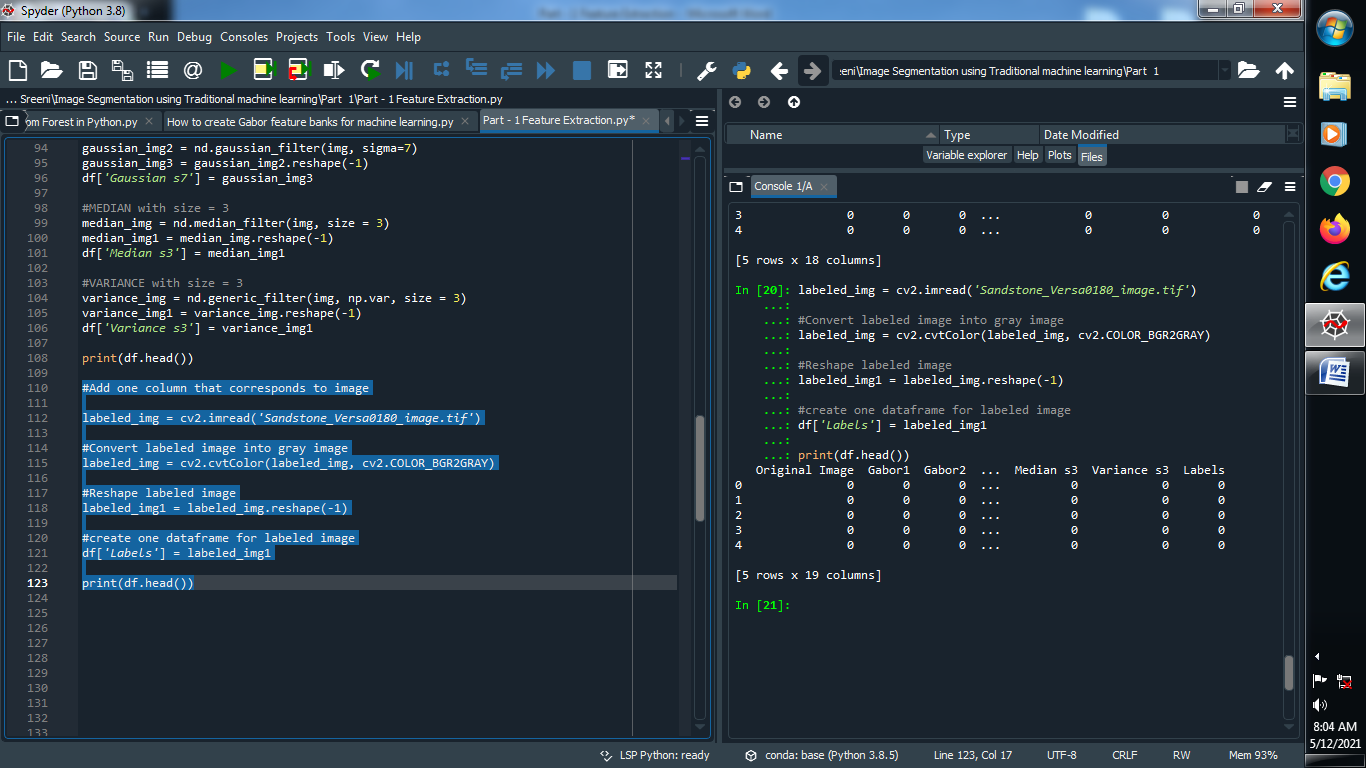
→ Output :



→ Add one column that corresponds to image :



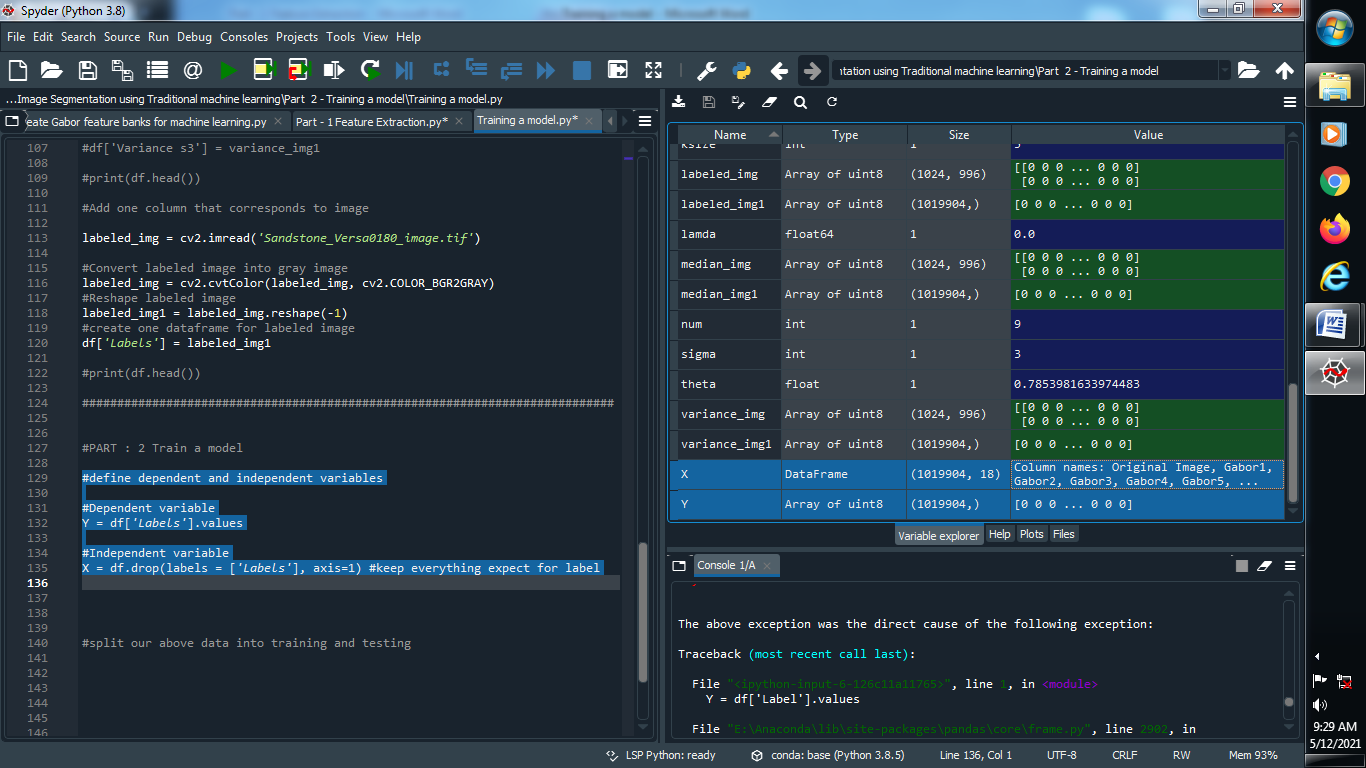
Output :



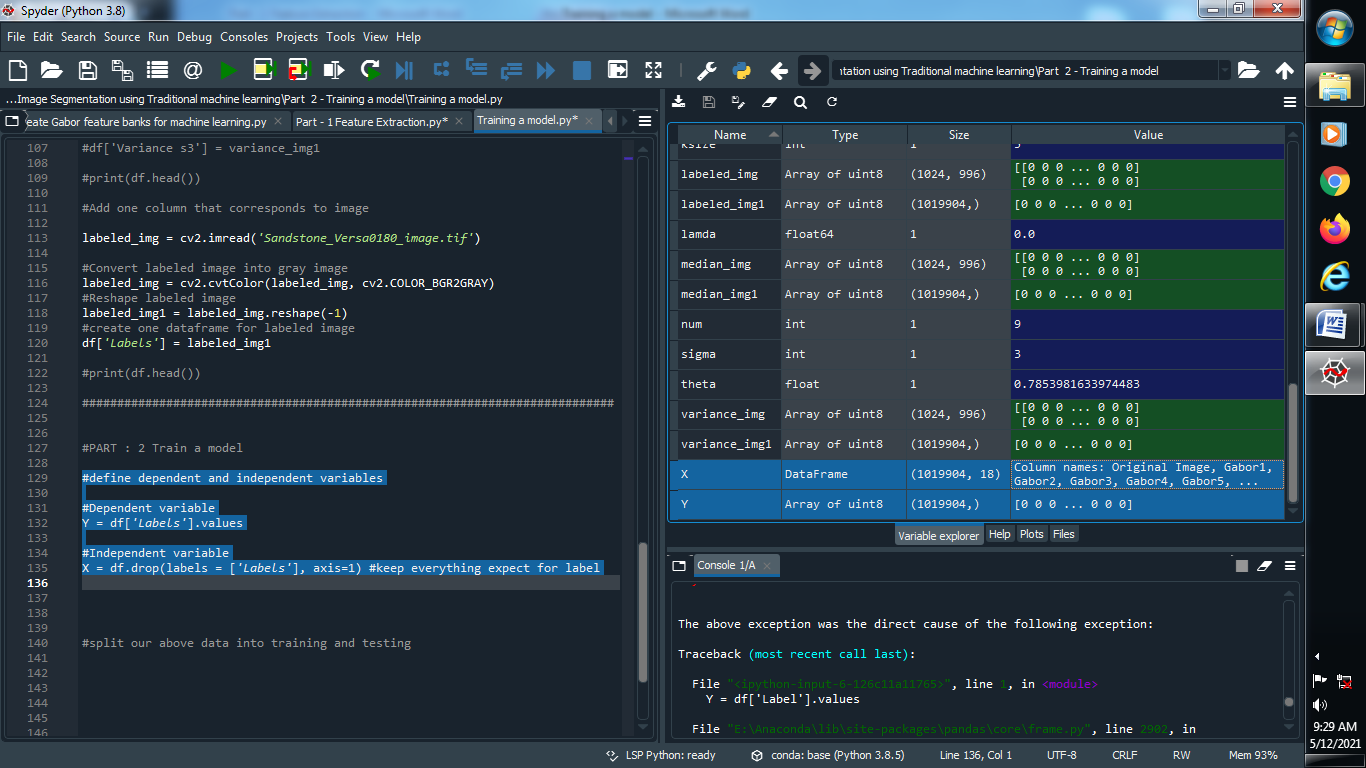
PART : 2 TRAIN A MODEL :

→ Let’s Train our model :

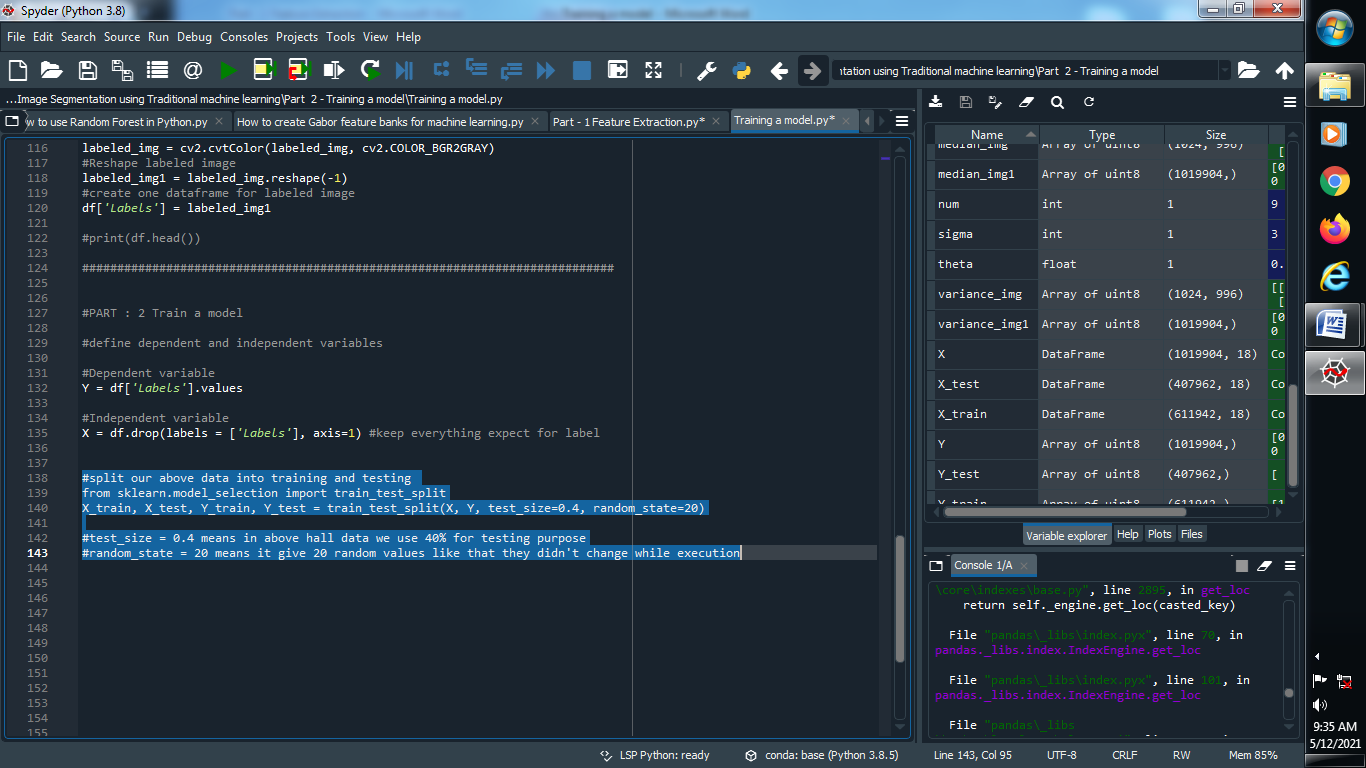
(1) Define dependent and independent variables :



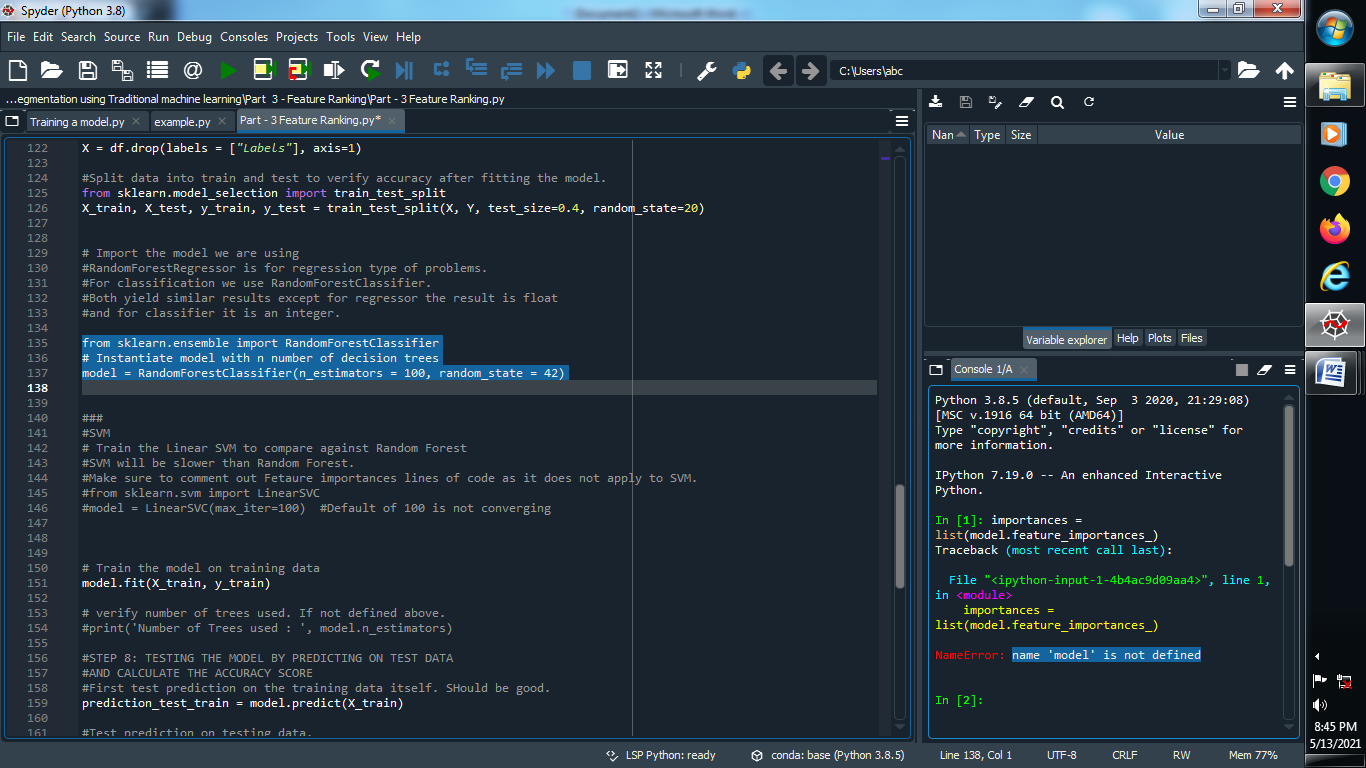
Output :



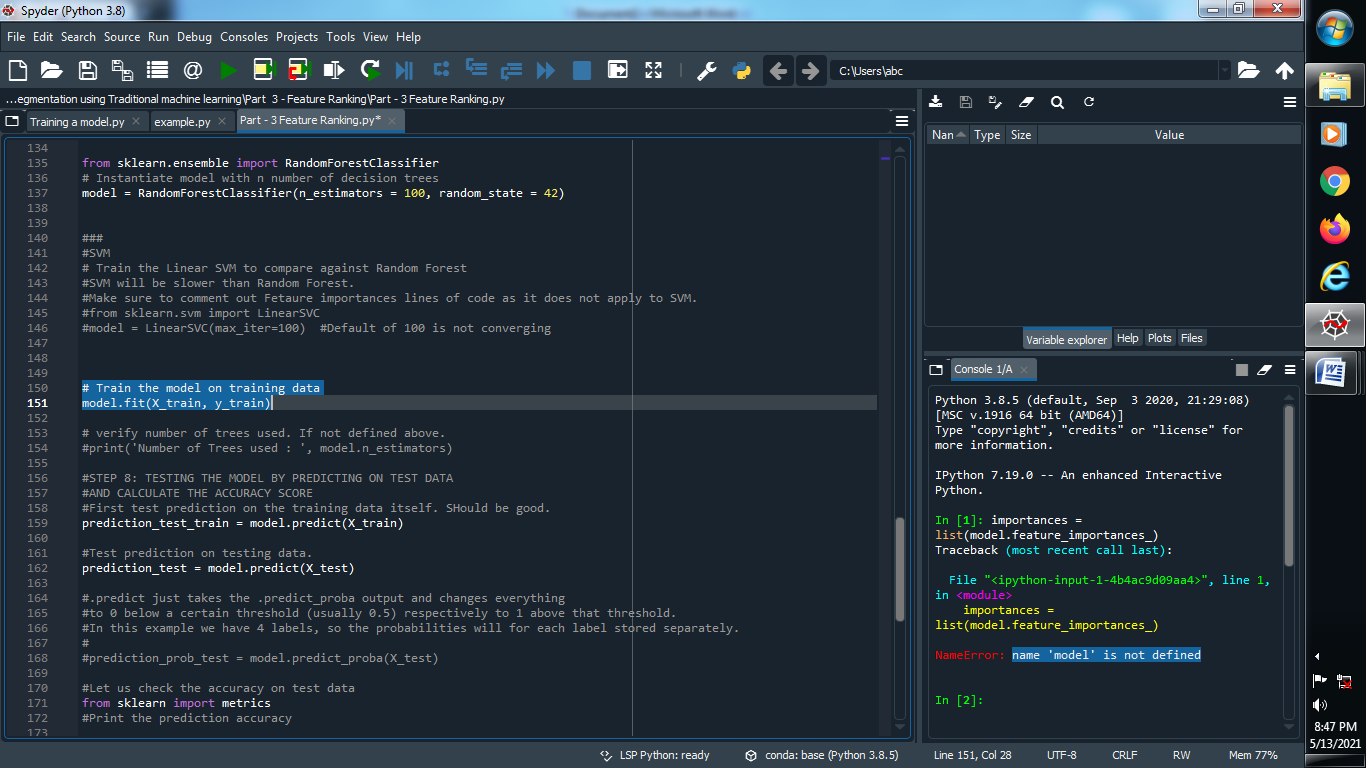
(2) Split our data into training and testing :



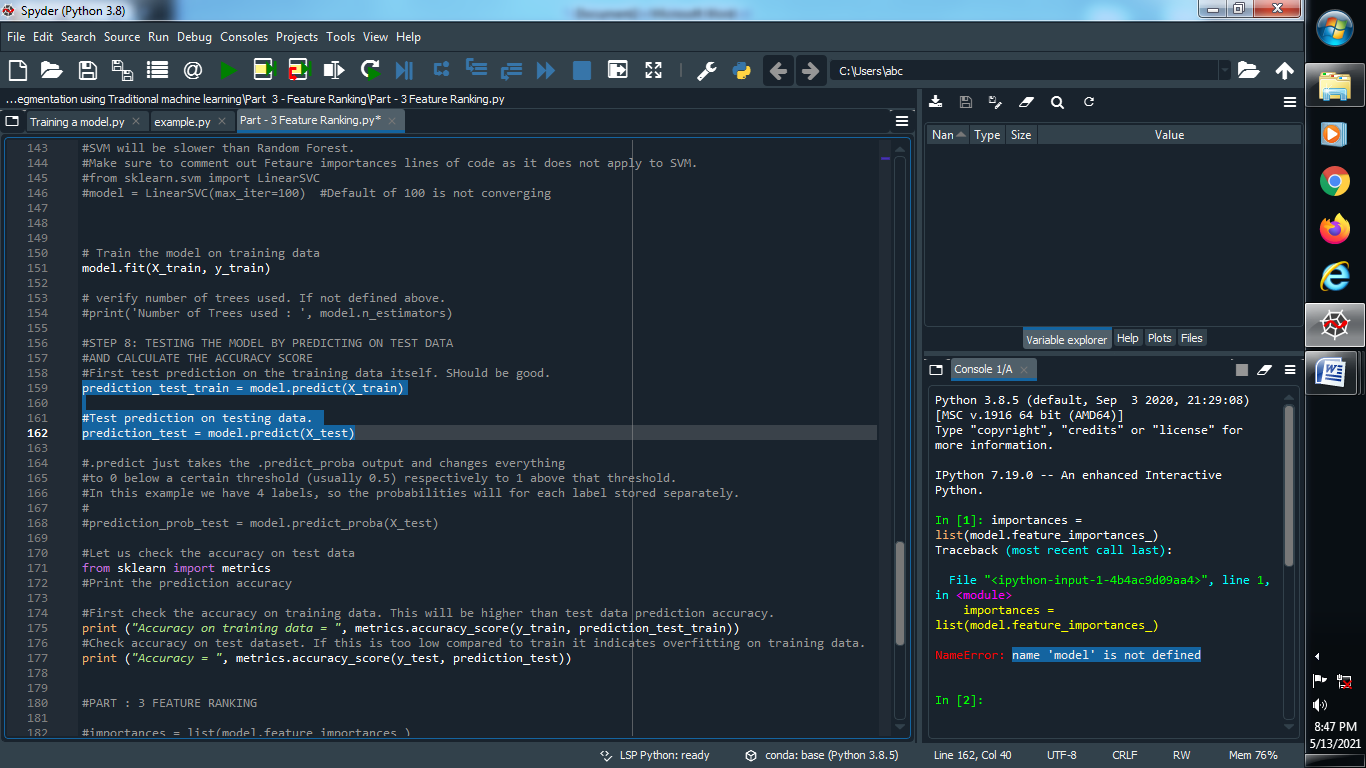
(3) Apply Random Forest Classifier :



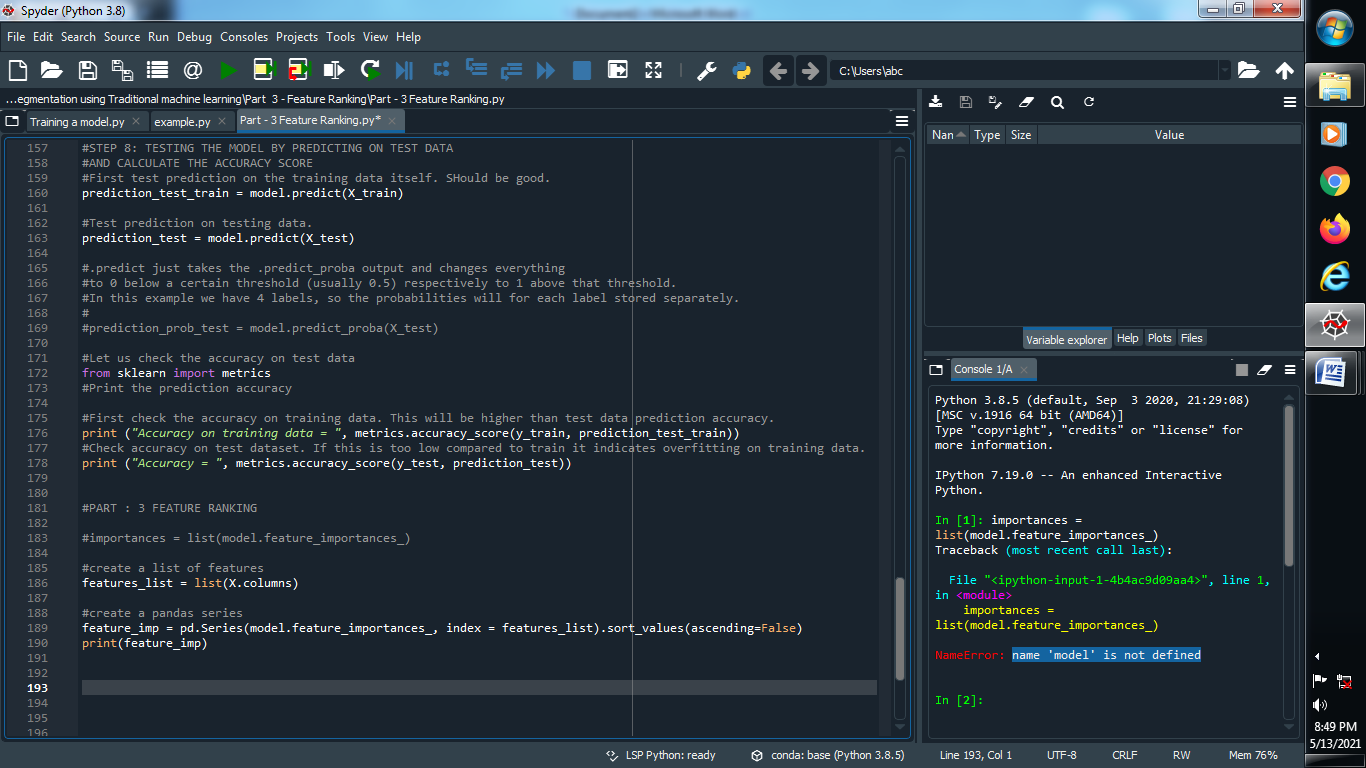
(4) Fit Our model :



(5) Predict Our training and testing dataset :

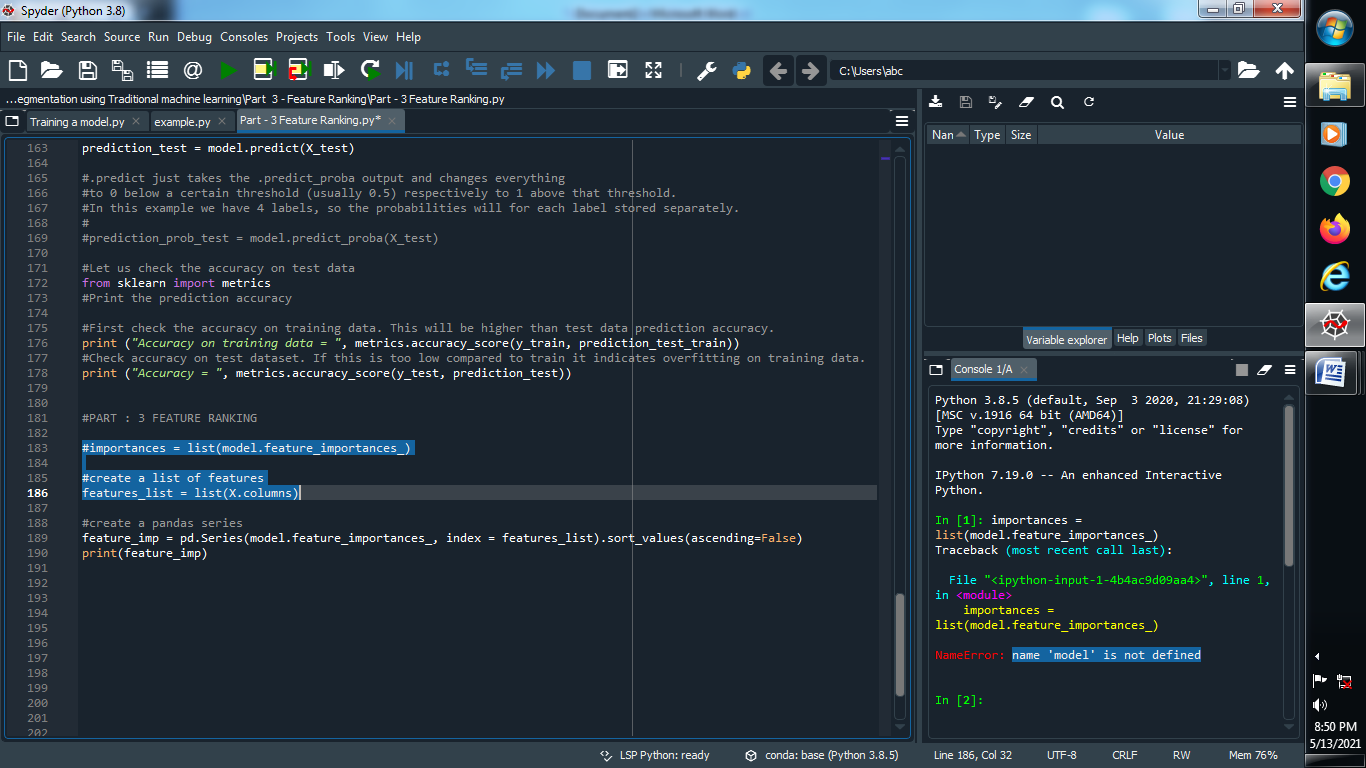


(6) Find the accuracy of our predicted data :

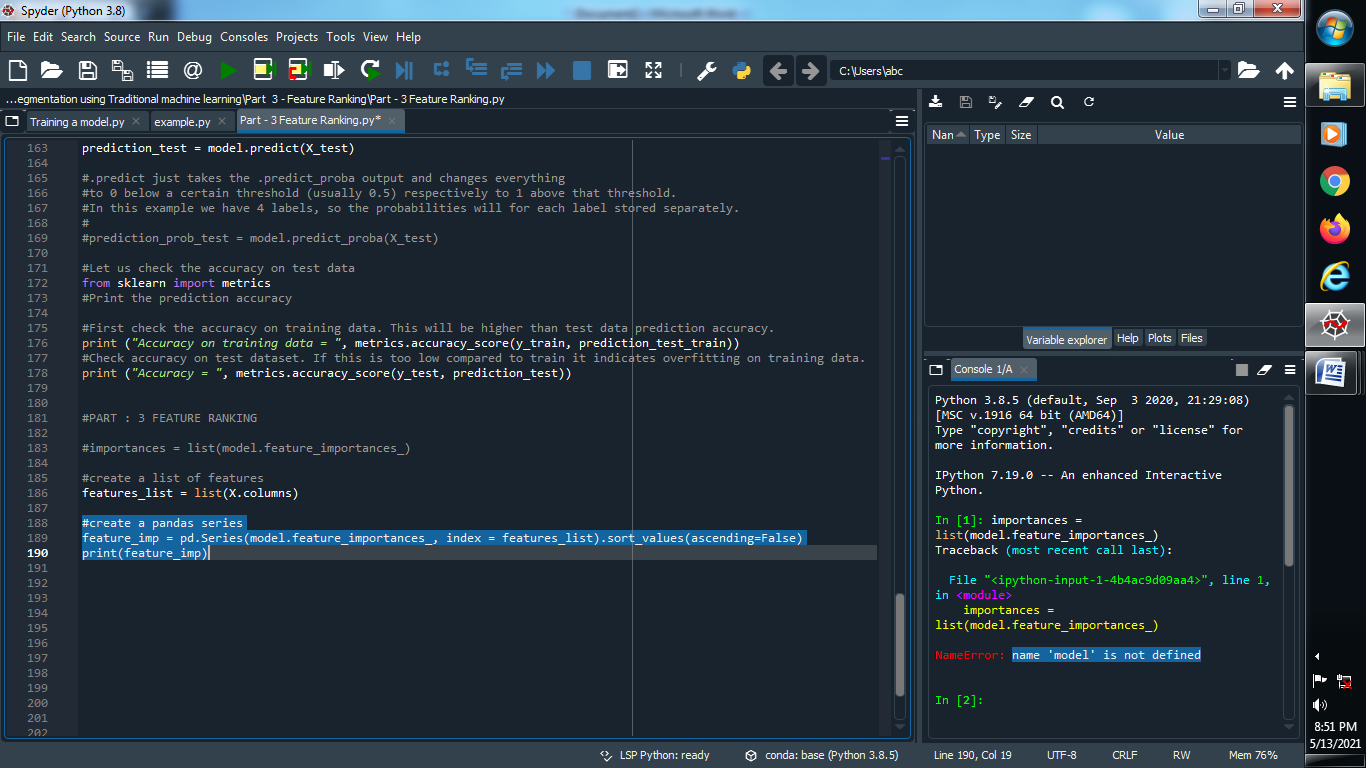


PART : 3 FEATURE RANKING :

(1) Create a list of features :



(2) Create a pandas series and print the ranking of our features :



Output :

