FRUIT DISEASES DETECTOR

(FINAL PROJECT)

EC9570- DIGITAL IMAGE PROCESSING

By Group 07,

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PROBLEM STATEMENT

The method of detecting and studying any fruit infections or diseases in antiquity was done with the naked sight, which is never adequate for eyes to detect them effectively. Fruits change color to demonstrate gesticulation. It might come from nature and display the various fruit markings, such as dark brown or black markings. Physical observation and pathogen detection are used to physically identify the infection, which typically takes more time, is more expensive, and has lesser accuracy.

INTRODUCTION

The greatest option to go around that is a quick and error-free diagnosis employing some MATLAB approaches that are more dependable than some other outdated techniques. On the various fruits of the plant, leaves, and lesions, we may see the signs of illnesses or diseases.

The objective of this PROJECT is to correctly identify and detect the disease from the image. Image segmentation, preprocessing, feature extraction, and identification are necessary steps in the process. Viral, bacterial, fungal, or diseases brought on by insects and the environment are all called infections. Here, we're going to look for fruit disease. To identify a certain disease, we will use fruit properties like their axis, including main and minor axes, etc. These features are derived from fruit images, and we may identify the infection using classification approaches.

SCOPE

We trying to detected few diseases related apple fruit.

USEFULNESS

The project supports the investigation of illnesses that affect fruits. Comparatively speaking, the software approach takes less time than the manual approach. Wholesale traders and large farmers can both benefit from this software. We can use this software to automate the fruit packing systems.

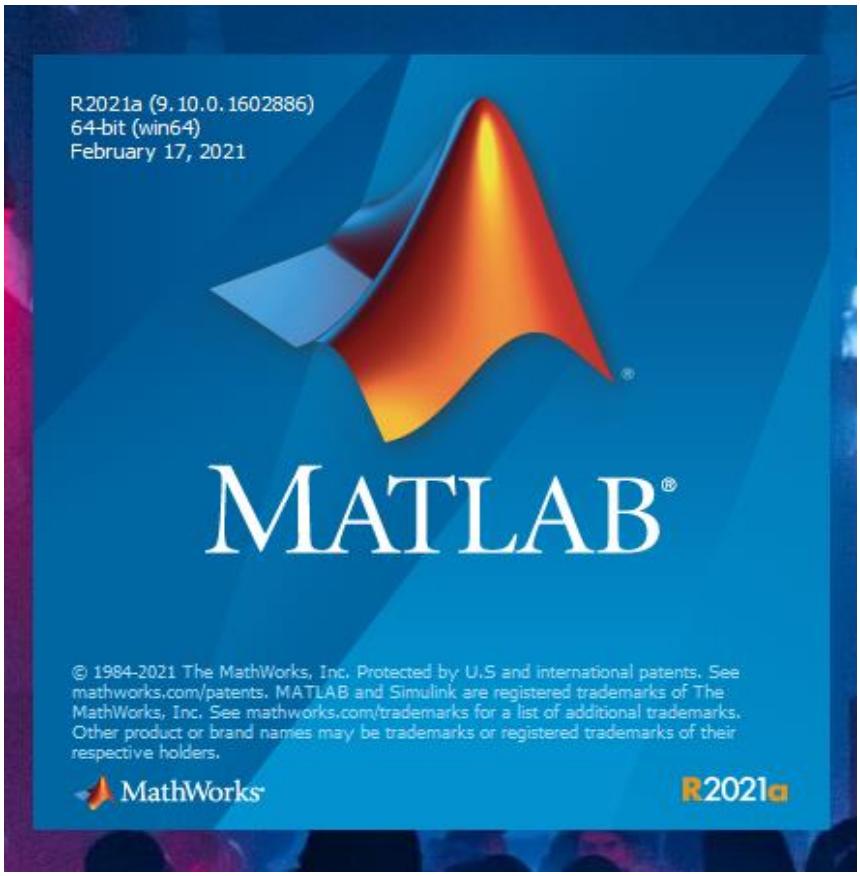
RUN THE PROJECT

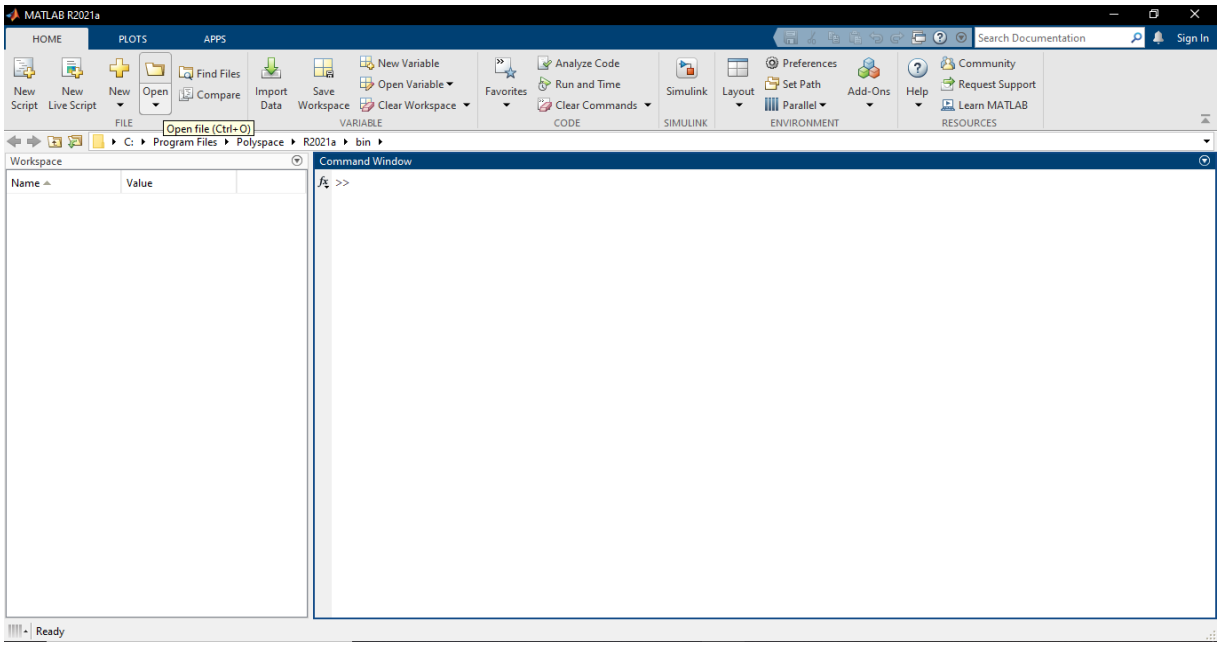
- Software required
  - MATLAB

- Libraries required
  - Image Processing Toolbox

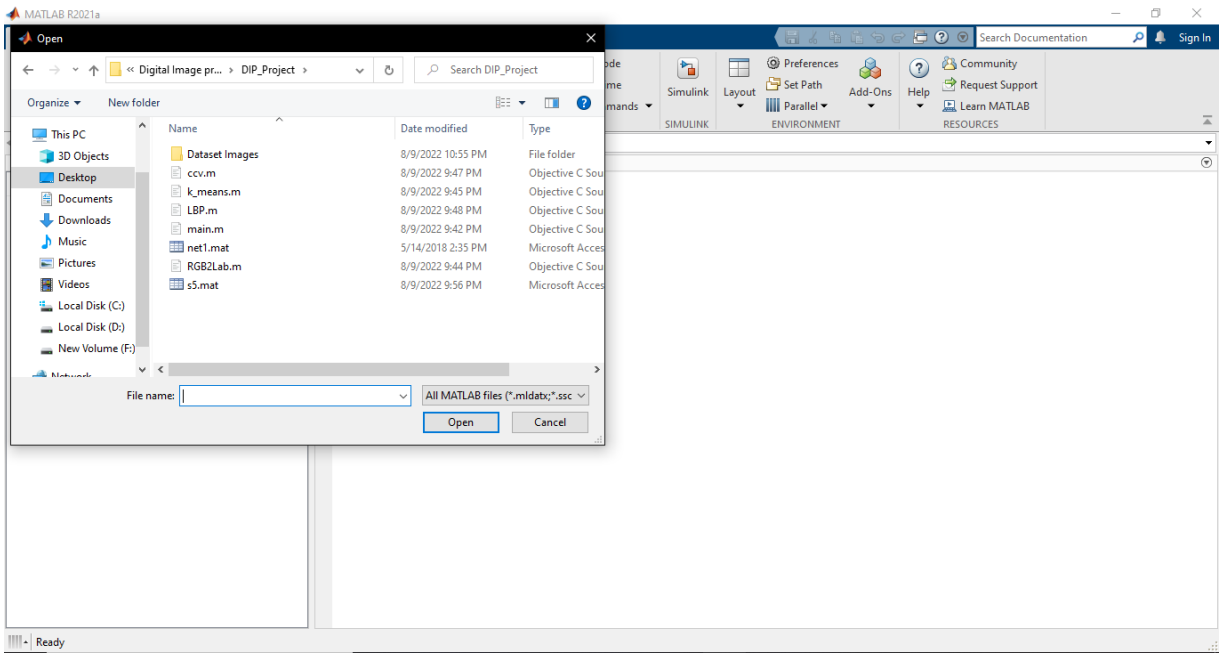
HOW TO RUN THE PROGRAM

01) Open the MATLAB software.

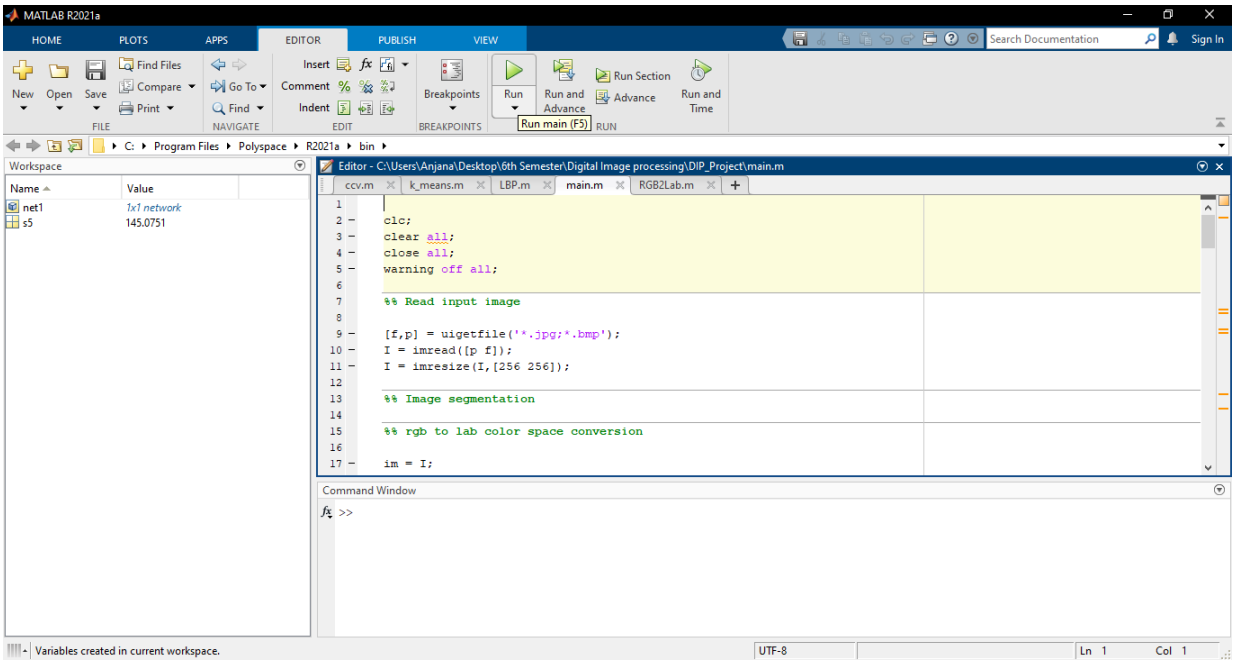




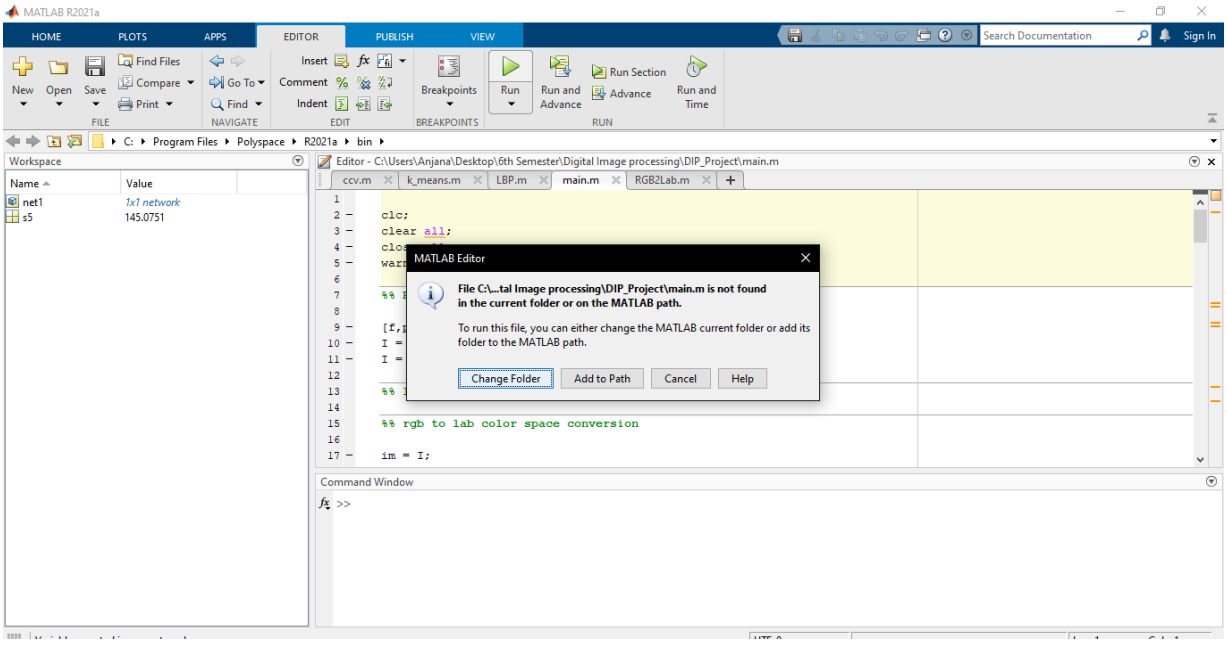
02) Open the project folder.



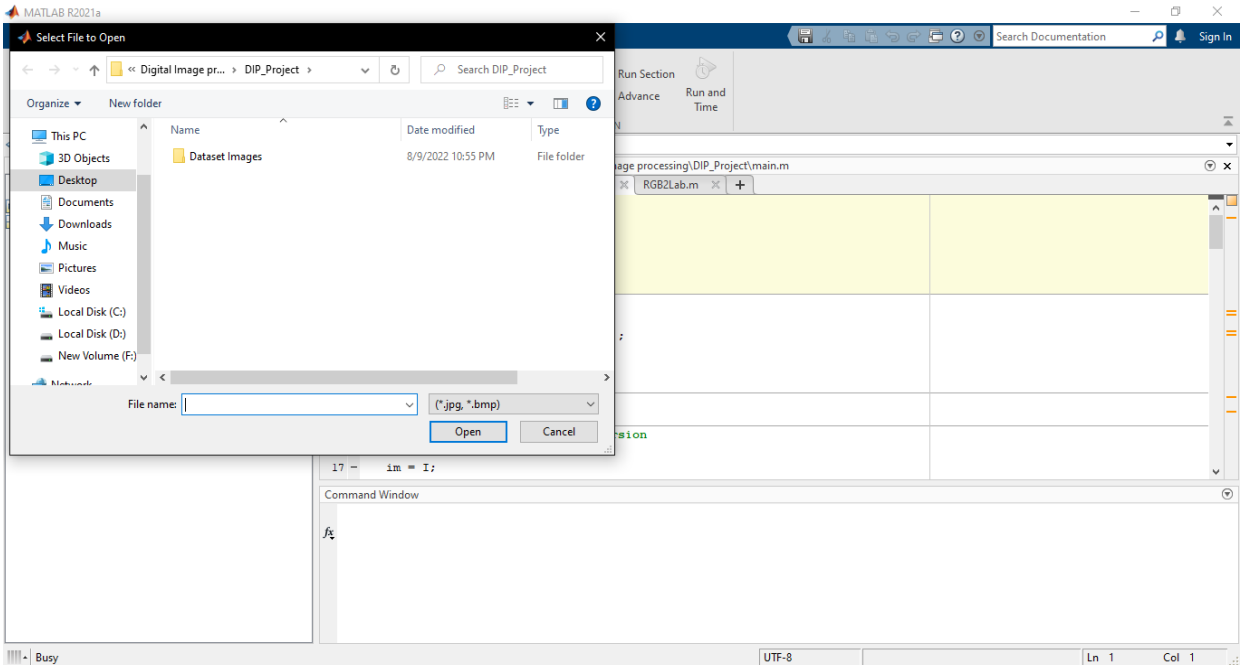
03) Run the main.m file.



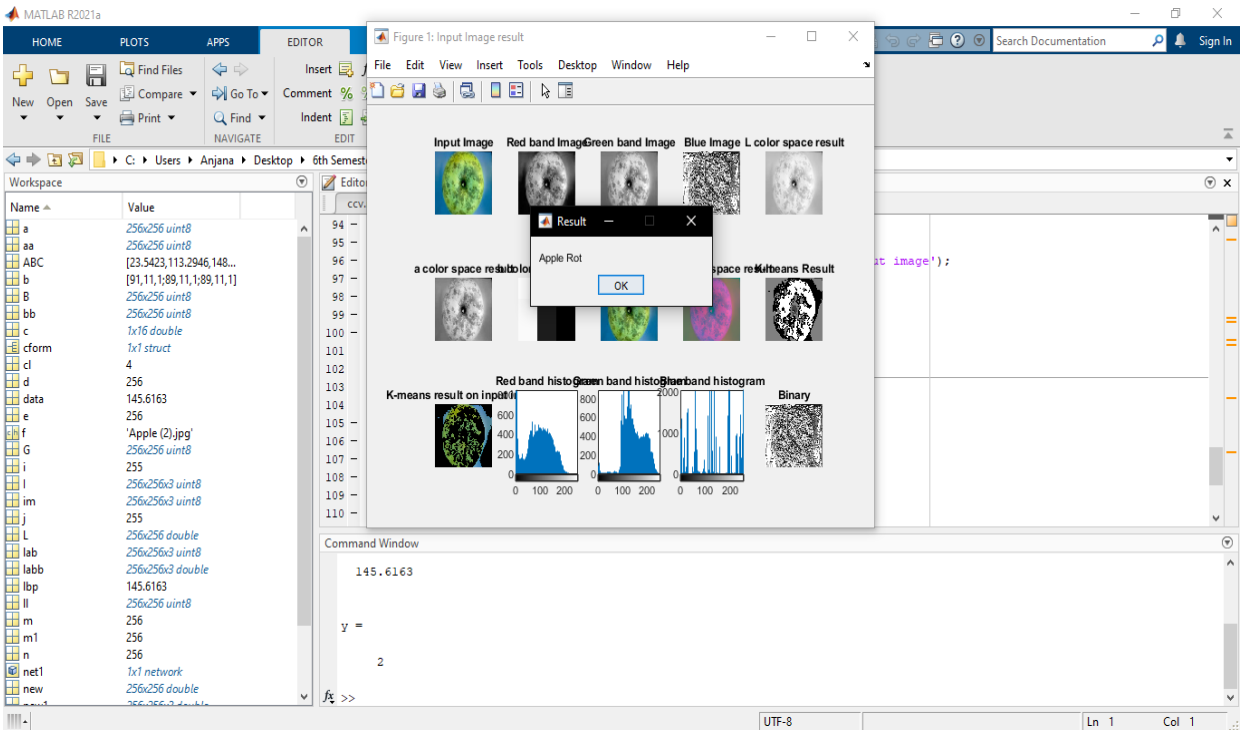
04) Then select the path of the MATLAB execution point.



05) Then select the image of fruit which is going to detect.



06) Popup message will show the result.



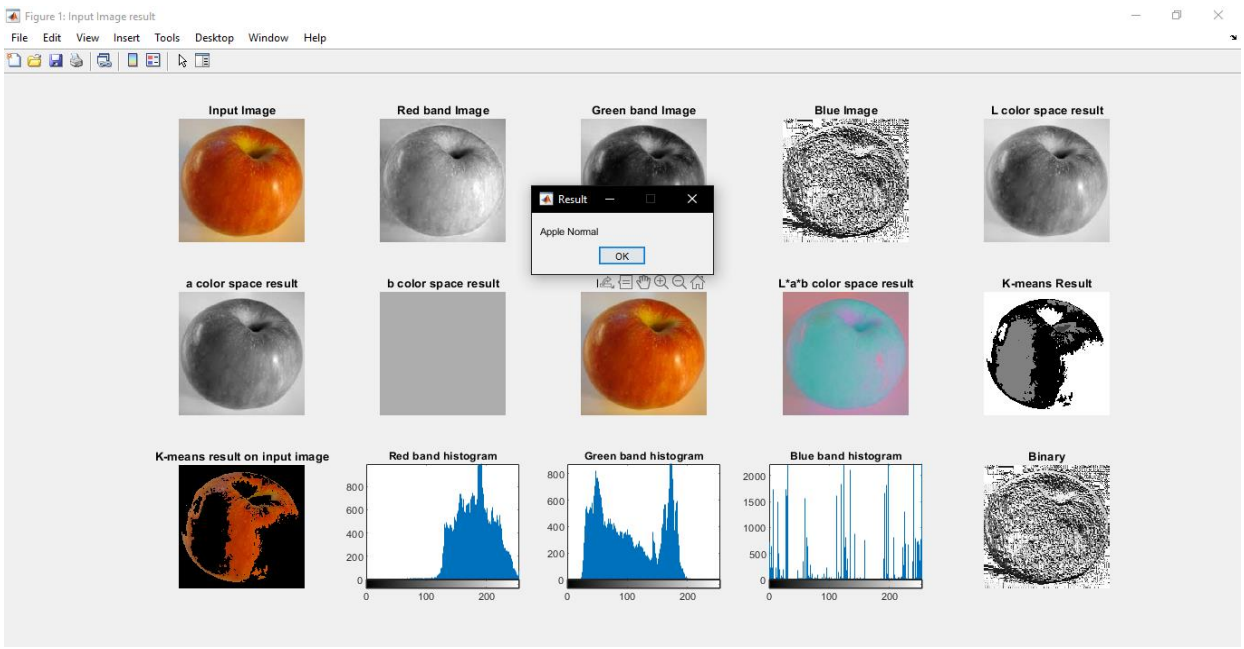


Figure 1: Input Image result
File Edit View Insert Tools Desktop Window Help
Input Image
Red band Image
Green band Image
Blue Image
L color space result
Result
Apple Normal
OK
a color space result
b color space result
L*a*b color space result
K-means Result
K-means result on input image
Red band histogram
Green band histogram
Blue band histogram
Binary