**Technical assessment**

Priyadharshini. M

18bcs035

Explanation

Let's go through the above code line by line.

// Read the image file

Mat image = imread("D:/My OpenCV Website/fly-agaric.jpg");

// Check for failure

if (image.empty())

{

cout << "Could not open or find the image" << endl;

cin.get(); //wait for any key press

return -1;

}

The above code segment will load the image from the specified file. The program will exit if the image load-up is failed.

//change the color image to grayscale image

cvtColor(image, image, COLOR\_BGR2GRAY); The above function converts the image in BGR color space to grayscale color space.

Please note that the color space of the loaded image is BGR, not RGB. (i.e. - Channels are ordered as blue, green and red.)

//equalize the histogram

Mat hist\_equalized\_image;

equalizeHist(image, hist\_equalized\_image); The above function equalizes the histogram of the grayscale image and store the output in the hist\_equalized\_image.

//Define names of windows

String windowNameOfOriginalImage = "Original Image";

String windowNameOfHistogramEqualized = "Histogram Equalized Image";

// Create windows with the above names

namedWindow(windowNameOfOriginalImage, WINDOW\_NORMAL);

namedWindow(windowNameOfHistogramEqualized, WINDOW\_NORMAL);

// Show images inside the created windows.

imshow(windowNameOfOriginalImage, image);

imshow(windowNameOfHistogramEqualized, hist\_equalized\_image); The above code segment will create windows and show images in them. As windows are created passing the flag WINDOW\_NORMAL, they can be resized freely.

waitKey(0); // Wait for any keystroke in the window

destroyAllWindows(); //destroy all open windows

return 0; The program will wait until any key is pressed. After a key is pressed, all created windows will be destroyed and the program will exit.