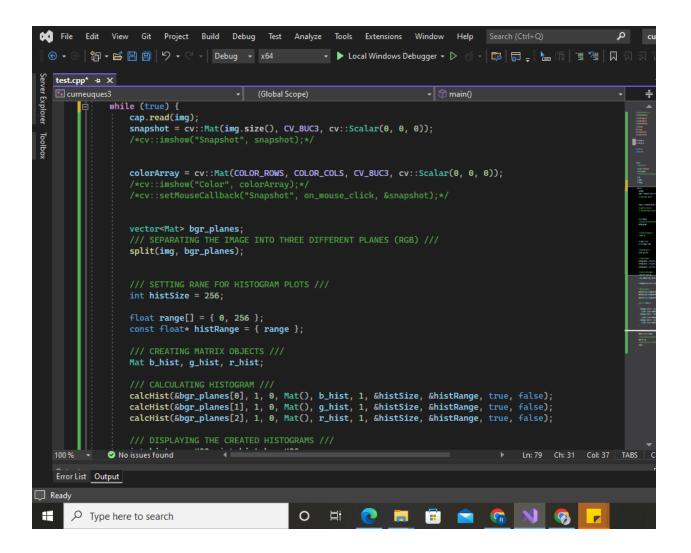
## **Outputs**

Name: Rhithika Sree K S Roll no: 1934031

Role: MACHINE LEARNING
AND DATA SCIENCE

## Code screenshots:

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                                         → (Global Scope)
          /// INCLUDING NEEDED HEADER FILES ///
         ☐# include<opencv2/imgcodecs.hpp>
# include<opencv2/highgui.hpp>
                                                                                                                              # include<opencv2/imgproc.hpp>
# include<opencv2/objdetect.hpp>
          # include<iostream>
          #include <string>
#include <opencv2/opencv.hpp>
          #include <opencv2/videoio.hpp>
          #define COLOR_ROWS 80
          #define COLOR_COLS 250
          using namespace std;
         ⊡void main() {
               string path = "source/video.mp4";
               VideoCapture cap(path);
/// CREATING NECESSARY MATRICE FOR STORING IMAGE FRAMES ///
               Mat img;
               Mat snapshot;
               Mat colorArray;
               while (true) {
                   cap.read(img);
                   snapshot = cv::Mat(img.size(), CV_8UC3, cv::Scalar(0, 0, 0));
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    test.cpp* → X
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    ▼ (Global Scope)

                          /// DISPLAYING THE CREATED HISTOGRAMS ///
                         int hist_w = 400; int hist_h = 400;
                         int bin_w = cvRound((double)hist_w / histSize);
                         Mat histImage(hist_h, hist_w, CV_8UC3, Scalar(255, 255, 255));
                         normalize(b_hist, b_hist, 0, histImage.rows, NORM_MINMAX, -1, Mat());
normalize(g_hist, g_hist, 0, histImage.rows, NORM_MINMAX, -1, Mat());
normalize(r_hist, r_hist, 0, histImage.rows, NORM_MINMAX, -1, Mat());
                         for (int i = 1; i < histSize; i++)</pre>
                               \label{line-entropy}  \mbox{line(histImage, Point(bin\_w * (i - 1), hist\_h - cvRound(b\_hist.at < float > (i - 1))),} 
                                    Point(bin_w * (i), hist_h - cvRound(b_hist.at<float>(i))), Scalar(255, 0, 0), 2, 8, 0);
                              Point(bin_w * (i), hist_h - cvRound(b_hist.at<\lambda\colon(1))), Scalar(255, 0, 0), 2, 8, 0); line(histImage, Point(bin_w * (i - 1), hist_h - cvRound(g_hist.at<\lambda\colon(i - 1))), Point(bin_w * (i), hist_h - cvRound(g_hist.at<\lambda\colon(i))), Scalar(0, 255, 0), 2, 8, 0); line(histImage, Point(bin_w * (i - 1), hist_h - cvRound(r_hist.at<\lambda\colon(i - 1))),
                                    Point(bin_w * (i), hist_h - cvRound(r_hist.at<float>(i))), Scalar(0, 0, 255), 2, 8, 0);
                         /// TO SHOW THE VARIATION OF PIXEL IN HISTOGRAM USING RGB VALUES ///
                         imshow("pixel variations", histImage);
/// TO SHOW THE VIDEO THAT HAS BEEN IMPORTED ///
                         imshow("video", img);
/// GIVING EACH FRAMES A DELAY OF 15 MILLISECONDS ///
                         waitKey(15);
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## Output screenshots:

