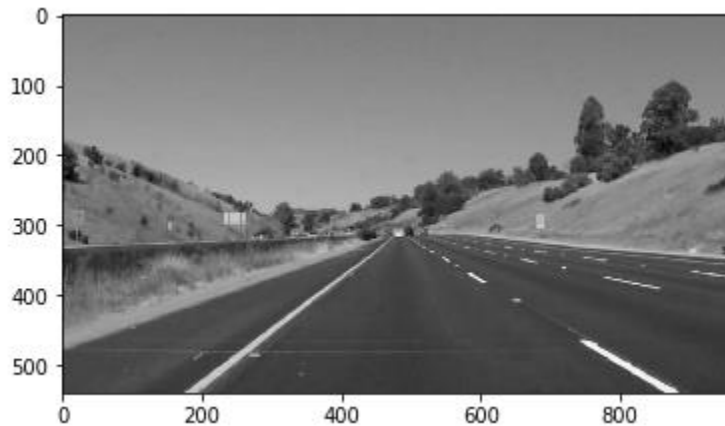1. **Description of Pipeline**

    I executed following steps in the draw_lines() function to detect the lane lines and mark the identified lanes -
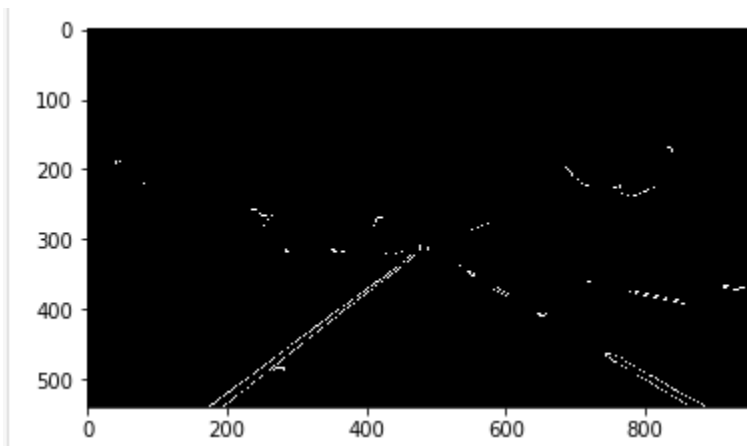
    Step 1: Read the height and width of image to recognize lane starting coordinates

    Step 2: Grayscale conversion

    Step 3: Define a kernel size for Gaussian smoothing / blurring

    Step 4: Define parameters for Canny Edge detection and apply cv2.canny() function for edge detection

    Step 5: Create a masked edges image using cv2.fillPoly()

    Step 6: Define a four sided polygon to mask region of interest

    Step 7: Define the Hough transform parameters and apply Hough transform on edge detected image to detect lane lines

    Step 8 : Define empty arrays to store x,y coordinate values and Right and Left slope values

Step 9 : Identify the Lane line segments from the image and store the x,y coordinate and slope values in empty array list

Step 10: Extract mean values for x,y coordinates and average slope from the array list

Step 11: Calculate line intercept values with line equation Y = ax+b

Step 12: Calculate bottom x,y coordinates with image height as bottom point

Step 13: Calculate top x,y coordinates considering middle of the image as end point for lane maskings

Step 14: Plot Lane masking images with cv2.line() function

Step 15: Create a color binary image to combine with line images

Step 16: Plot the image with line edges

2. **Potential Shortcomings**
   One of the shortcomings I can identify is a little flicker in one or two frame in the solidWhiteRight video. It seems that the coordinates are not getting correctly identified due to which the Lane marking highlighting is flickering. However I checked with the test images and the video with yellow lanes also but there is no such issue with any of the images.

3. **Possible Improvements to Pipeline**
   The current pipeline is covering mostly the straight lane markings. The Pipeline should be robust enough to be utilized for curved lane markings and should also avoid detection of objects coming in alignment with lane marking, like White car moving in zone of interest close to white lane marking, similarly a Yellow car moving close to Yellow lane marking.