# Finding lane lines on the road

1. Pipeline:

   a. Run through the folder and load all the images
   b. Gray the image using the function grayscale() define
   c. Apply Gaussian Blur after converting the image gray to reduce the image noise
   d. Apply canny edge detection function to identify the lanes, the thresholds are defined by trial and error in this case.
   e. Apply Hough lines to extract lines. Below image is an example for the extracted lines after applying Hough transform
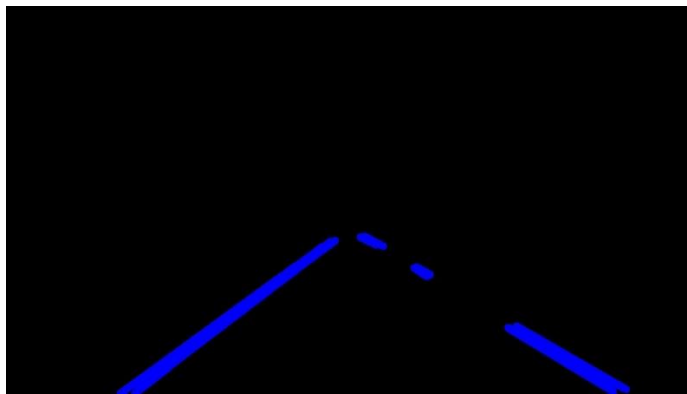
   f. Finally draw the lines on the original image to obtain the below result. Other images are included in the zip file

   g. Draw lines to indicate complete lanes. This can be done by obtaining the output from Hough transformation and averaging them to get a single line with the required slope and intercept.

Shortcomings:

1) The code is currently calibrated with images with low noise, so an image with greater noise might not give satisfactory results
2) The code will fail upon encountering curved lanes

Improvements:

1) Possible improvements would be to calibrate the Hough transform parameters to represent images with more noise.
2) Polynomial fit would be a good idea to solve the problem with curved lanes