The goals / steps of this project are the following:

- Make a pipeline that finds lane lines on the road
- Reflect on your work in a written report

Reflection

1. Describe your pipeline. As part of the description, explain how you modified the draw_lines() function.

The pipeline creation was the easy part of this assignment as it was well explained in the course video.

Following were the steps that were performed in the pipeline in series:

1. Original image was converted to grayscale
2. Then the gray scale image was smoothened using Gaussian blur algorithm with Kernel size 5.
3. Next step was to identify the edges using the Canny algorithm
4. Then I zeroed on to the area of interest using a polygon. Using trial and error came up with the vertices position
5. To identify the straight line the image space was transformed to feature space using Hough transformation
6. Then the straight lines identified in above step were placed in the original image and returned

   Following is the output of image pipeline with original draw_lines() function

It took considerable time to come up with the enhanced draw_lines() function. The slope and intercept of the straight lines were calculated, based on slope sign (+ or -) it was assigned to either left lane or

right lane. Then the average of this was calculated and then a single line was drawn on the original image.

There were lot of challenges faced while implementing this function. I had to take care of empty lines, zero division error and infinity error. This took lot of time and because of this I am little behind my schedule but learnt a lot during this process.

The outcome is OK, but not great. There are some places where odd lines pop up in the video and the challenge video it draws lines all over the place. As already behind schedule didn't take up the additional (optional) challenge but will solve it in future.

I had to do lot of web search to finish this assignment. The 2 blogs/git which helped me to get an idea to solve the problem are listed below.

https://github.com/naokishibuya/car-finding-lane-lines

https://codynicholson.github.io/Finding_Lane_Lines_Project/