Project 2

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- Develop a program which does the following tasks.

  1) Alert a warning text “Lane departure!” when lane departure of our car is detected.

  2) Alert a warning text “Start Moving!” when our car is stationary and the car in front starts moving from a stop.
  - We don’t know how to detect a car in an image yet.
  - So, first set a proper ROI on the image
  - When there exist a considerable pixel value change inside the ROI, just assume that the car in front starts moving

Project 2

- Read the given video.
  - For task 1, you may use HoughLine.
  - For task 2, you may use background subtraction
  - The color and the position of the warning texts does not matter. Just be sure it can be visible.
  - Your program should display one window ‘Project2’

Exercise 7

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Assume you have a background image on the left. Perform pixel-based background subtraction to the image on the right with threshold as 10. For pixels corresponding to moving object, set those pixels as 255. Set other pixels as 0.

1	1	1	1
1	1	1	1
1	1	1	1
1	1	1	1

5	6	7	8
10	12	12	13
15	16	17	18
20	21	22	23

Exercise 7

Perform erosion and dilation on the input image by using the following structure element

Input

0	0	0	0	0
0	0	1	0	0
0	1	1	1	0
0	0	1	0	0
0	0	0	0	0

Structure element

0	1	0
1	1	1
0	1	0

Exercise 7

Suppose you have a binary object A on the left. And you applied morphological operation (opening or closing) and the result is shown on the right. Which operation was applied? Explain why.