



Perspective

Input:

```
✓ 1s  1 image_bgr = io.imread("/content/tilted_ThaiLicensePlate.jpg")  
2  
3 # Need to convert to RGB for a proper display  
4 image_rgb = cv.cvtColor(image_bgr, cv.COLOR_BGR2RGB)  
5  
6 print("Input image")  
7 cv2.imshow(image_rgb)
```


 Input image



จับมุมทะเบียนรถสี่มุม ซ้ายบน [195, 195] ขวาบน [425, 260] ขวาล่าง [410, 375] ซ้ายล่าง [190, 300] แล้วจับแต่ละจุดย้ายไปยังจุดใหม่ตาม out_4pts

```
1 print(image_rgb.shape)
2 rows,cols,ch = image_rgb.shape
3
4 # In a clockwise manner: top left, top right, bottom right, and bottom left.
5 in_4pts = np.float32([[195,195],[425,260],[410,375],[190,300]]) # four marked input points
6
7 out_4pts = np.float32([[0,0],[400,0],[400,170],[0,170]]) # extended to the full size, using four marked output points
8
9 M = cv.getPerspectiveTransform(in_4pts,out_4pts)
10 dst = cv.warpPerspective(image_rgb,M,(rows,cols))
11
12 print("Transformed image")
13 cv2.imshow(dst)
```

(449, 774, 3)
Transformed image




The image shows a Thai license plate with the text 'ฮข 599' and 'กรุงเทพมหานคร' (Bangkok). The plate is tilted and has been transformed into a rectangular shape. The bottom part of the image is black, indicating the original image's dimensions were extended to fit the new perspective.

✓ 0s completed at 10:24 PM

ตัดรูปภาพตามความเหมาะสม ได้ภาพ 400 x 180

```
1 # crop the image
2 cropped_image = dst[0:180,0:400]
3 print("Cropped image")
4 cv2.imshow(cropped_image)
```

Cropped image



The image shows a cropped version of the license plate, focusing on the text 'ฮข 599' and 'กรุงเทพมหานคร'. The image is now rectangular and has a white background.