

# Line segment drawing

When processing images with OpenCV, we sometimes need to draw line segments, rectangles, etc. on the image.

In OpenCV, we use the `line(dst, pt1, pt2, color, thickness=None, lineType=None, shift=None)` function to draw line segments.

Parameter Description:

`dst`: Output image.

`pt1`, `pt2`: Required parameter. The coordinate points of the line segment, representing the starting point and the end point respectively.

`color`: Required parameter. Used to set the color of the line segment.

`thickness`: Optional parameter. Used to set the width of the line segment.

`lineType`: Optional parameter.

Used to set the type of line segment, optional 8 (8 adjacent connecting lines - default), 4 (4 adjacent connecting lines) and `cv2.LINE_AA` for anti-aliasing

Code path:

```
~/dofbot_ws/src/dofbot_opencv/scripts/3.draw_picture/04_draw_line.ipynb
```

```
import cv2
import numpy as np
import matplotlib.pyplot as plt
newImageInfo = (600, 600, 3)
dst = np.zeros(newImageInfo, np.uint8)

# line
# Draw a line segment 1 dst 2 begin 3 end 4 color
cv2.line(dst, (100,100), (450,300), (0,0,255))
# 5 line w
cv2.line(dst, (100,200), (400,200), (0,255,255), 10)
# 6 line type
cv2.line(dst, (100,300), (400,300), (0,255,0), 10, cv2.LINE_AA)

cv2.line(dst, (200,150), (50,250), (25,100,255))
cv2.line(dst, (50,250), (400,380), (25,100,255))
cv2.line(dst, (400,380), (200,150), (25,100,255))

# cv2.imshow('dst',dst)
# cv2.waitKey(0)
dst = cv2.cvtColor(dst, cv2.COLOR_BGR2RGB)
plt.imshow(dst)
plt.show()
```

