Images

"Python slice notation"

```
a[start:end]  # items start through (end-1)
a[start:]     # items start through the rest of the array
a[:end]       # items from the beggining through (end-1)
a[:]          # a copy of the whole array.
```

also the step values

```
a[start:end:step]
```

"Pixels"

You can access a pixel value by its row/column coordinates & returns array of BGR values.

```
img = cv2.imread("image.jpg")
px = img[x, y] # where x = row and y = columns. (x ≤ maxrow, y ≤ maxcolumn)
# printing px will return [a, b, c], values of BGR respectively
# you can access a pixel in greyscale if you add a third variable which will be equal to 0 like so:
px = img[x, y, 0] # this will return one value, the intensity of the blue pixel (0 to 255)
# you can modify pixel values the same way:
img[x, y] = [a, b, c]
```

```
px = img[x, y, z]
          ↓
     channel of the image.
z = 0: original image/color
z = 1: grey-scale
z = 2?
z = ... ?
```

array.item(), array.itemset()

Look at variables, no

site: opencv-python-tutorials.readthedocs

- Core operations
  - Basic operations on images