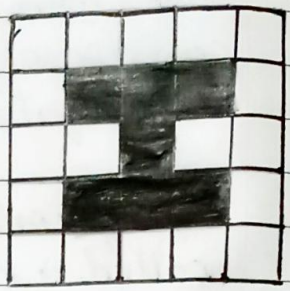
#1 - Reading images and videos

We can import openCV module : import cv2

Step 1: After importing the module, we have to read the image we want to display :

```
img = cv2.imread('pic.jpg')
```

The matrix of pixels is stored in the variable



Step 2: After storing the matrix, we have to display it

```
cv2.imshow('Window name', img)
```

(matrix of pixels)

Step 3:

```
cv2.waitKey(0)
```

This is just a keyboard function. This waits for a specific time and waits for a key to get pressed.

0 → infinite time delay

Note :- If the dimensions of an image > computer's display resolution, the image is not completely displayed.

* We should resize the image.

Reading videos in opencv

```
video = cv2.videoCapture('video.mp4')
```

↳ method to read video

Here, we need to continuously read a video frame by frame

```
while True:
    done, frame = video.read()
```

↳ method to read video frame by frame. Returns — (bool, frame)

```
    cv2.imshow('Video', frame) # Displaying the frames

    if cv2.waitKey(20) & 0xFF = ('k'):
        break
```

- When 'k' will be pressed, loop will break
- cv2.waitKey(20) ← allows you to wait for specific time in milliseconds until you press any key on the keyboard.
- Higher the value in waitkey function, lesser the video speed.

video.release() → release the video pointer

For webcam capture:

```
video = cv2.videoCapture(0)
```

↳ First camera