Demo Programs

video_capture.py
This demo uses the laptop webcam to capture live video and display it on the screen. It can be adapted to capture video from an connected external camera.

save_photo.py
This demo takes a photo using opencv. It is similar to the first demo, in that it displays the live video on the monitor. However, this demo is modified such that, if the key 'p' is pressed, then a photo at that instant is captured and saved to a file.

save_video.py
This demo writes the captured video to a file.

blur_video.py
This demo applies blurring to the real-time video. Two types of filters are demonstrated: the averaging filter and the Gaussian filter.

cv2 functions

cv2.VideoCapture(0)
This function is for initializing video capture. The argument signifies which camera device attached to the computer is being accessed. It is 0 for the webcam attached to the laptop.

cv2.flip(frame, 0 or 1)
This function is to flip the given image horizontally (pass 1 as argument) or vertically (pass 0 as argument).

cv2.filter2D(frame, depth, kernel)
This convolves an image with a kernel (spatial convolution). In the demo, the kernel is chosen to be an averaging filter. Set depth as -1 (standard) for the output image to be of the same depth as the input.

cv2.GaussianBlur(frame, kernel size, sigmaX, sigmaY)
This applies a Gaussian filter to an image (spatial convolution). Kernel size is passed. SigmaX and SigmaY are the standard deviations in the x and y directions.

References

https://opencv-python-tutroals.readthedocs.io/en/latest/py_tutorials/py_gui/py_video_display/py_video_display.html#display-video