



## import cv2

```
cap = cv2.VideoCapture(0)

if not cap.isOpened():
    print("Cannot open camera")
    exit()

while True:
    ret, frame = cap.read()
    if not ret:
        print("Can't receive frame (stream end?). Exiting ...")
        break

cv2.imshow('Camera', frame)

# Break if 'q' is pressed
if cv2.waitKey(1) == ord('q'):
    break

# Also break if window is closed
if cv2.getWindowProperty('Camera', cv2.WND_PROP_VISIBLE) < 1:
    break

cap.release()
cv2.destroyAllWindows()
```

"hey i want to add a feature to this code

1. i want to capture a photo and a video and save it to my computer....

Here's how you can add features to your code to capture both a photo and a video, saving them to your computer:

### Requirements

- **Photo capture:** Press a key (for example, `c`) to capture the current frame and save it as an image (e.g., JPG or PNG).
- **Video capture:** Press a key (for example, `v`) to start/stop video recording. The recorded video should be saved as an AVI or MP4 file.

## Updated Code

```
import cv2
import datetime

cap = cv2.VideoCapture(0)

if not cap.isOpened():
    print("Cannot open camera")
    exit()

# VideoWriter initialization
recording = False
out = None
frame_width = int(cap.get(3))
frame_height = int(cap.get(4))

while True:
    ret, frame = cap.read()
    if not ret:
        print("Can't receive frame (stream end?). Exiting ...")
        break

    cv2.imshow('Camera', frame)

    key = cv2.waitKey(1)

    # Capture photo if 'c' is pressed
    if key == ord('c'):
        filename = f"photo_{datetime.datetime.now().strftime('%Y%m%d_%H%M%S')}.png"
        cv2.imwrite(filename, frame)
        print(f"Photo saved as {filename}")

    # Start/stop video recording if 'v' is pressed
    if key == ord('v'):
        if not recording:
            video_filename = f"video_{datetime.datetime.now().strftime('%Y%m%d_%H%M%S')}.
            out = cv2.VideoWriter(
                video_filename,
                cv2.VideoWriter_fourcc('M', 'J', 'P', 'G'),
                20,
                (frame_width, frame_height)
            )
            recording = True
            print("Recording started...")
        else:
            recording = False
            out.release()
            out = None
            print("Recording stopped.")

    # Write frame if recording
    if recording and out is not None:
        out.write(frame)

    # Break if 'q' is pressed or window closed
```

```

        if key == ord('q') or cv2.getWindowProperty('Camera', cv2.WND_PROP_VISIBLE) < 1:
            if recording and out is not None:
                out.release()
            break

cap.release()
cv2.destroyAllWindows()

```

## How It Works

- Press **'c'** to take a **photo**. It saves with a timestamped filename in the script's folder.
- Press **'v'** to **start/stop video recording**. The recording is saved as an AVI file with a timestamped filename.
- Press **'q'** or close the window to quit.

You can modify key bindings or file formats as needed!

## give me the simplest and effective code

Here's a **simple and effective version** of your code to capture both a photo and record a video using your webcam. This version uses easy key controls and avoids extra complexity:

```

import cv2

cap = cv2.VideoCapture(0)

if not cap.isOpened():
    print("Cannot open camera")
    exit()

recording = False
video_writer = None

while True:
    ret, frame = cap.read()
    if not ret:
        break

    cv2.imshow('Camera', frame)
    key = cv2.waitKey(1) & 0xFF

    # Take photo with 'c'
    if key == ord('c'):
        cv2.imwrite('photo.png', frame)
        print("Photo saved as photo.png")

    # Toggle video recording with 'v'
    if key == ord('v'):
        if not recording:
            fourcc = cv2.VideoWriter_fourcc(*'XVID')

```

```

        video_writer = cv2.VideoWriter('video.avi', fourcc, 20, (frame.shape[1], frame.shape[0]))
        recording = True
        print("Recording started...")
    else:
        recording = False
        video_writer.release()
        video_writer = None
        print("Recording stopped.")

    # Save video frame if recording
    if recording and video_writer is not None:
        video_writer.write(frame)

    # Exit with 'q' or window close
    if key == ord('q') or cv2.getWindowProperty('Camera', cv2.WND_PROP_VISIBLE) < 1:
        break

if recording and video_writer is not None:
    video_writer.release()
cap.release()
cv2.destroyAllWindows()

```

### Usage:

- Press **c** to capture a photo (saves as photo.png)
- Press **v** to start/stop video recording (saves as video.avi)
- Press **q** or close the window to quit

This script is minimal and should work out of the box with minimal setup. You can change file names if desired.