

In [17]: `pip install opencv-python`

Requirement already satisfied: opencv-python in c:\users\magician\appdata\local\programs\python\python312\lib\site-packages (4.9.0.80)

Requirement already satisfied: numpy>=1.21.2 in c:\users\magician\appdata\local\programs\python\python312\lib\site-packages (from opencv-python) (1.26.4)

Note: you may need to restart the kernel to use updated packages.

## import libraries

In [18]: `import cv2`  
`import matplotlib.pyplot as plt`

In [19]: `cam=cv2.VideoCapture(0)`  
`v1,frame=cam.read()`  
`cv2.waitKey(10)`  
`cam.release()`  
`cv2.destroyAllWindows()`

In [20]: `v1`

Out[20]: `True`

In [21]: `frame`

```

Out[21]: array([[[201, 196, 185],
                  [198, 192, 183],
                  [176, 172, 167],
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                  [174, 170, 174],
                  [173, 173, 177],
                  [173, 174, 179]],

                [[212, 208, 200],
                  [206, 201, 195],
                  [163, 160, 156],
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                  [177, 175, 177],
                  [172, 173, 174],
                  [168, 170, 172]],

                [[198, 197, 194],
                  [208, 206, 204],
                  [158, 156, 155],
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                  [170, 172, 168],
                  [168, 172, 167],
                  [167, 172, 168]],

                ...,

                [[247, 252, 241],
                  [245, 251, 239],
                  [247, 253, 240],
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                  [115, 150, 158],
                  [113, 148, 155],
                  [111, 146, 152]],

                [[247, 252, 241],
                  [248, 252, 241],
                  [248, 252, 239],
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                  [118, 150, 157],
                  [118, 150, 157],
                  [118, 149, 155]],

                [[250, 253, 243],
                  [250, 253, 241],
                  [250, 252, 239],
                  ...,
                  [120, 150, 157],
                  [119, 148, 155],
                  [120, 148, 155]]], dtype=uint8)

```

```
In [22]: plt.imshow(frame)
```

```
Out[22]: <matplotlib.image.AxesImage at 0x1f28e606b40>
```



```
In [23]: cv2.namedWindow("Open-CV",cv2.WINDOW_NORMAL)
webcam=cv2.VideoCapture(0)

while True:
    rect,img=webcam.read()
    cv2.imshow("Open-CV",img)

    if cv2.waitKey(10)==ord("q"):
        break
webcam.release()
cv2.destroyAllWindows()
```

```
In [24]: faceDetect=cv2.CascadeClassifier("E:\haarcascade_frontalface_alt.xml")

cv2.namedWindow("Face Detection",cv2.WINDOW_NORMAL)
webcam=cv2.VideoCapture(0)

while True:
    rect,img=webcam.read()
    faces=faceDetect.detectMultiScale(img,1.5)
    print(len(faces))

    for(x,y,w,h) in faces:
        cv2.rectangle(img,(x,y),(x+w,y+h),(0,0,255),2)
    cv2.imshow("Face Detection",img)

    if cv2.waitKey(10)==ord("q"):
        break
webcam.release()
cv2.destroyAllWindows()
```

```
<>:1: SyntaxWarning: invalid escape sequence '\h'  
<>:1: SyntaxWarning: invalid escape sequence '\h'  
C:\Users\Magician\AppData\Local\Temp\ipykernel_15180\4201973794.py:1: SyntaxWarning:  
invalid escape sequence '\h'  
    faceDetect=cv2.CascadeClassifier("E:\haarcascade_frontalface_alt.xml")
```

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