OpenCV Test

# Introduction

In my version 1 code, here is the step by step into how it works, using the libraries you need to install.

1. Install OpenCV: **pip install opencv-python**
2. Install imutils: **pip install imutils**
3. Download a pre-trained facial landmark detector. One example is the 68-point facial landmark detector included in the dlib library: **pip install dlib**

*(If step 3 returns errors, you may need to download and install CMaker first.)*

1. Import the required libraries:
2. Load the pre-trained facial landmark detector:
3. Load the emotion labels:
4. Define a function to detect and extract the facial landmarks:
5. Define a function to display the emotions on the frame:
6. Start the webcam and display the emotions on the frame:

# Version 5

This code uses OpenCV library to recognize faces and emotions in a live webcam video stream. It loads the pre-trained face and emotion detection models from OpenCV and uses them to detect faces and emotions in each frame of the video stream.

The code captures a frame from the webcam, processes each detected face, detects emotions in the face region and labels them as either "Happy" or "Neutral". It draws rectangles around the detected faces and emotions and displays the processed frame with the emotion label next to the recognized face.

The code continues to run until the user presses the "q" key to quit, after which it releases the resources used by the webcam and closes the window.

The code defines two functions - **main()** and **recognize\_emotion\_and\_face()**. The **main()** function simply calls the **recognize\_emotion\_and\_face()** function to execute the script.