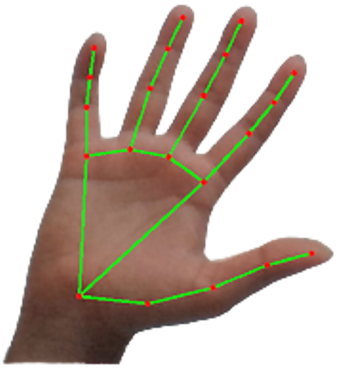
Sign Language Recognition

Friday, July 1, 2022 10:38 PM

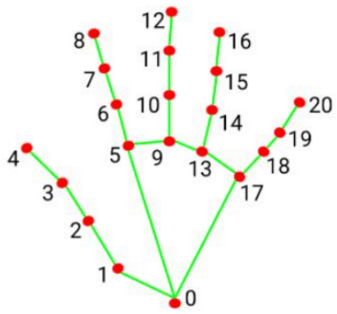
Steps to create code

1. **I will create class for hand detection with following functions**
    a. Class name handDetector()
    b. First function of class is ***initialization function***, which initialize mediapipe library for how many hands you want to detect and how much accuracy you need or confidence required to guess it is really a hand.
    c. The second function is for hands detection named ***findHands(),*** which simple detect hands and display the landmarks on it with connected to each other, just like shown in image. Function return image like shown below



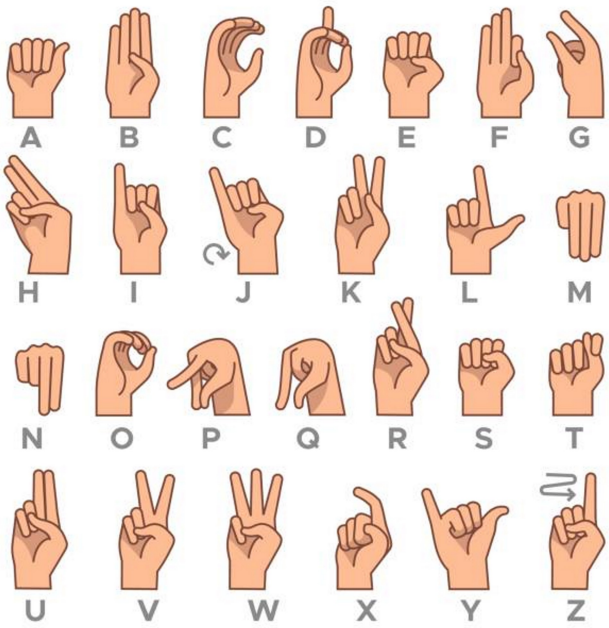
    D. The last function is finding hand landmarks named as ***findHandLm()***, which return 21 hand landmarks with x-axis and y-axis value.

Hand Land Marks



0. WRIST
1. THUMB_CMC
2. THUMB_MCP
3. THUMB_IP
4. THUMB_TIP
5. INDEX_FINGER_MCP
6. INDEX_FINGER_PIP
7. INDEX_FINGER_DIP
8. INDEX_FINGER_TIP
9. MIDDLE_FINGER_MCP
10. MIDDLE_FINGER_PIP
11. MIDDLE_FINGER_DIP
12. MIDDLE_FINGER_TIP
13. RING_FINGER_MCP
14. RING_FINGER_PIP
15. RING_FINGER_DIP
16. RING_FINGER_TIP
17. PINKY_MCP
18. PINKY_PIP
19. PINKY_DIP
20. PINKY_TIP

2. The next step is to create main program and recognize signs



A. In main program first I make an object of handDetector() class

B. Through the object I find the hand

C. After detection of hand then finds the landmarks

D. On the basis of landmarks value guess the sign

E. In last display what the sign is on run time video