HAND CRICKET GAME

Description-

Project as the name suggests is a game in which the player shows the finger of his hand which is then read by the computer and the computer takes the count of them. This involves the video capturing and processing and modifying the image and further extracting useful information from it.

Python Library Used-

This project uses libraries such as Random , OpenCV and it uses MediaPipe which is a “cross-platform framework for building multimodal applied machine learning pipelines”. Simply putting it provides various ML models and one of them is hand tracking which is used in this project.

How it is Implemented-

I am going to take input from my camera using the videocapture function from opencv.
Then read it image by image and pass it to hand tracking model from mediapipe
Which gives information about various landmarks on the fingers.
Then going to build a finger counter which gives the number of fingers open when I show my hand in front of the camera. So the count can be 0,1,2,3,4,5 but I am treating 5 as 6. 0 is a dot ball nothing will happen.
Then going to generate a random number between 1-6 using randint function of the random library. If this generated number is equal to finger count then it means the player is out.
If not this finger count will add to the player's score.
At the start I would have given a target using the random function .
So if either score is greater than target or player is out i will break out of while loop
And based on score and target i would declare win ,lose or draw.

What i learn -

The new things I learn through this project is how to input images and video and various other functions of opencv. Like resizing the image converting into grayscale etc.
Learnt about Mediapipe hand tracking model.
Learn how to write Classes, Functions and Loops in Python.

Motivation-

This project because it gives me a real time count of fingers from video so it's very fascinating and modifying images and videos using openCV was also very interesting and openCV is a very interesting library so I tried to get familiar with this through this project.

References-

https://google.github.io/mediapipe/solutions/hands
https://www.youtube.com/watch?v=WQeoO7MI0Bs&t=917s