This file tell us how execute this ML\_HandGestures\_project

STEP1:- Installing Python:

1. Open Chrome or any web browser.

2. In the search bar, type "Python download" and press Enter.

3. Click on the link that says "Download Python" (this should lead to the official Python website).

4. Choose the latest version of Python and download the installer.

5. Once the download is complete, open the downloaded file and follow the installation instructions: **On Windows**: Run the installer, check "Add Python to PATH," and follow the setup wizard.

Step 2: Creating a New Project

**2.1 Creating a New Folder:**

1. Open the File Explorer (Windows).

2. Navigate to a location where you want to create your project folder (e.g., Documents).

3. Right-click (or Control-click on Mac) and select "New Folder."

4. Name the folder  **handgestures** .

**2.2 Opening the Folder in VS Code:**

1. Open Visual Studio Code.

2. Click on "File" in the top menu and select "Open Folder."

3. Navigate to the  **handgestures**  folder you created and open it.

**Step 3: Installing Necessary Libraries**

**3.1 Opening the Terminal in VS Code**:

1. In Visual Studio Code, click on "Terminal" in the top menu.

2. Select "New Terminal" from the dropdown.

**3.2 Installing Libraries**:

1. In the terminal, type the following commands and press Enter after each one:

Step 4: Create a Virtual Environment

1. **Open the Terminal or Command Prompt**:

Open your terminal (Mac/Linux) or Command Prompt (Windows).

1. **Navigate to Your Project Directory**:

Navigate to the directory where you want to create your project. You can use the  cd  command to change directories. For example: cd path/to/your/project

1. **Create the Virtual Environment:**

To create a virtual environment, use the following command:

**python -m venv venv(venv=virtual env name)**

1. **Activate the Virtual Environment**:

After creating the virtual environment, you need to activate it. The command to activate the virtual environment depends on your operating system.

**On Windows**:

**.\venv\Scripts\activate**

Step 5: Install Required Packages

Once the virtual environment is activated, you can install the required packages using  pip . For this project, we will need OpenCV, MediaPipe, TensorFlow, and NumPy.

**pip install opencv-python mediapipe tensorflow numpy**

1. **Verify the Installation**:

**pip list**

After completing these steps, you will have a virtual environment set up with all the necessary packages installed. Let me know once you have completed this setup, and we can proceed with the next steps of the project! We'll name the file  gestures.py

Step 6: Create the Main Python Script

1. **Open Your Text Editor or IDE**: Open your preferred text editor or Integrated Development Environment (IDE) (e.g., VS Code, PyCharm).

2. Create a New Python File: Create a new file and save it as  **gestures.py**  in your project directory.

3. Add Initial Code to Capture Video and Detect Hands: We'll start by writing the initial code to capture video from the webcam and detect hands using MediaPipe..

4.Add code in gestures.py run program .

Step 7Running the gestures.py Script

1. **Open Your Terminal or Command Prompt**:

Make sure your virtual environment is activated. If it's not, activate it using the following commands:

On Windows: **.\venv\Scripts\activate**

1. **Navigate to Your Project Directory:**

Use the  cd  command to navigate to the directory where your  gestures.py  file is located. For example: handgestures cd path/to/your/project

1. **Run the Script**: Run the script by using the following command:

**python gestures.py**