# **Knee Bend Exercise**

This task uses Media Pipe by Google and OpenCV. Language used was Python3.

**Instructions:**

**Requirements**

* Programming Language
* Python3 (PyCharm)
* Libraries
* OpenCV
* Media pipe
* Time
* Math

**Project Setup**

* Clone the project.
* RUN – Knee Bend Exercise.py
* Detect knee in given media file or Webcam.
* If wants use webcam (Change Value in Video Capture)
* Web-cam - Video Capture(0)
* Video file - Video Capture("path to media file")

**To Quit -**

1. Once the video starts, the counting of reps does not begin until the person has bent their knees for 140deg or less.
2. The reps do not get counted if the person held their feet for less than 8 seconds.
3. If the person changes sides, Rep counter resets for the other leg from 0. Reps are only counted for the leg closer to the camera as detected by Media Pipe.
4. If the person relaxes their knee before 8 seconds, a warning is issued for 3 seconds telling them to keep their knee bent.
5. Some part of the video had cuts and at some parts Media Pipe struggled to differentiate between the left and the right leg.
6. Live value of the angle is also shown atop the closer knee.