TEAM EUREKA
NLP WEEK 1 PROGRESS

1. Downloaded the dataset for the project from the website http://human-pose.mpi-inf.mpg.de/#download

2. The Dataset is photos of various human exercises and postures which help us to identify the postures of the input data.

3. The dataset contains various exercises like calisthenics, yoga, weight-training etc. So we selected yoga postures as a sample dataset and tried to build a model around it. We preprocessed it by enhancing the images and removing the duplicates and also removed any irregularities in the images

4. Coming to the NLP component we tried to build a fitness centric rule based chatbot.

5. We take a small video as input with proper posture appearance which is given to the model, that uses mediapipe module to analyse the main landmarks from the body of the person in the video which will be displayed as joints.

6. These joints or landmarks will be taken as live keypoints and compare it with reference key points and gives the feedback to the chatbot.

7. The key points include

```
joint_names = [
        'nose', 'left_eye', 'right_eye', 'left_ear', 'right_ear',
        'left_shoulder', 'right_shoulder', 'left_elbow',
'right_elbow',
        'left_wrist', 'right_wrist', 'left_pinky', 'right_pinky',
        'left_index', 'right_index', 'left_thumb',
'right_thumb',
        'left_hip', 'right_hip', 'left_knee', 'right_knee',
        'left_ankle', 'right_ankle', 'left_heel', 'right_heel',
        'left_foot_index', 'right_foot_index'
    ]
```

8. We define some rules for the chatbot according to the feedback given the model. The chatbot for now is rule based and we will further develop self-learning chatbot along the road.