Project Development Phase
Model Performance Test

Date	10 November 2022
Team ID	PNT2022TMID09233
Project Name	Real-Time Communication System Powered by AI for Specially Abled
Maximum Marks	10 Marks

1. Model Summary

```
In [40]: model.summary()

         Model: "sequential"

         Layer (type)                Output Shape              Param #
         =================================================================
         conv2d (Conv2D)             (None, 62, 62, 32)        320

         max_pooling2d (MaxPooling2D) (None, 31, 31, 32)       0

         flatten (Flatten)           (None, 30752)             0

         dense (Dense)               (None, 512)               15745536

         dense_1 (Dense)             (None, 9)                 4617
         =================================================================
         Total params: 15,750,473
         Trainable params: 15,750,473
         Non-trainable params: 0
```

2. Confusion Matrix and Classification Report

```
Confusion Matrix
[[38 31 33 26 29 22 31 19 21]
 [31 28 25 27 26 26 33 26 28]
 [22 18 28 34 30 36 33 21 28]
 [32 21 23 34 30 24 42 22 22]
 [29 23 29 18 25 30 32 30 34]
 [20 29 27 26 32 25 32 22 37]
 [27 30 26 32 21 31 33 26 24]
 [26 41 25 26 24 26 30 25 27]
 [25 29 33 28 33 30 29 14 29]]

Classification Report
              precision    recall  f1-score   support

           A       0.15      0.15      0.15       250
           B       0.11      0.11      0.11       250
           C       0.11      0.11      0.11       250
           D       0.14      0.14      0.14       250
           E       0.10      0.10      0.10       250
           F       0.10      0.10      0.10       250
           G       0.11      0.13      0.12       250
           H       0.12      0.10      0.11       250
           I       0.12      0.12      0.12       250

    accuracy                           0.12      2250
   macro avg       0.12      0.12      0.12      2250
weighted avg       0.12      0.12      0.12      2250
```

3. Accuracy

Training and Validation accuracy