

IBM Project Name: Real-Time Communication System Powered by AI for Specially Abled

TEAM ID: PNT2022TMID19449

Model Building

Import The Required Model Building Libraries

In [1]:

```
#import imagedatagenerator  
from keras.preprocessing.image import ImageDataGenerator
```

In [2]:

```
#training datagen  
train_datagen=ImageDataGenerator(rescale=1./255, shear_range=0.2, zoom_range=  
0.2, horizontal_flip=True)
```

In [3]:

```
#testing datagen  
test_datagen=ImageDataGenerator(rescale=1./255)
```

IMPORTING tensorflow

In [4]:

```
import tensorflow as tf  
import os
```

Initialize The Model

In [13]:

```
#create model  
from keras.models import Sequential  
from keras.layers import Dense  
from keras.layers import Convolution2D  
from keras.layers import MaxPooling2D  
from keras.layers import Dropout  
from keras.layers import Flatten  
from tensorflow.keras.preprocessing.image import ImageDataGenerator
```

In [6]:

```
import numpy as np  
import matplotlib.pyplot as plt #to view graph in colab itself  
import IPython.display as display  
from PIL import Image  
import pathlib
```

Unzipping the dataset

In [7]:

```
!unzip '/content/conversation engine for deaf and dumb (1).zip'
```

Streaming output truncated to the last 5000 lines.

```
extracting: Dataset/training_set/G/1225.png
```

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

extracting: Dataset/training_set/G/575.png
inflating: Dataset/training_set/G/576.png
inflating: Dataset/training_set/G/577.png
inflating: Dataset/training_set/G/578.png
inflating: Dataset/training_set/G/579.png
inflating: Dataset/training_set/G/58.png
extracting: Dataset/training_set/G/580.png
inflating: Dataset/training_set/G/581.png
extracting: Dataset/training_set/G/582.png
inflating: Dataset/training_set/G/583.png
inflating: Dataset/training_set/G/584.png
inflating: Dataset/training_set/G/585.png
extracting: Dataset/training_set/G/586.png
inflating: Dataset/training_set/G/587.png
inflating: Dataset/training_set/G/588.png
inflating: Dataset/training_set/G/589.png
inflating: Dataset/training_set/G/59.png
extracting: Dataset/training_set/G/590.png
inflating: Dataset/training_set/G/591.png
inflating: Dataset/training_set/G/592.png
inflating: Dataset/training_set/G/593.png
inflating: Dataset/training_set/G/594.png
inflating: Dataset/training_set/G/595.png
extracting: Dataset/training_set/G/596.png
extracting: Dataset/training_set/G/597.png
inflating: Dataset/training_set/G/598.png
extracting: Dataset/training_set/G/599.png
inflating: Dataset/training_set/G/6.png
inflating: Dataset/training_set/G/60.png
inflating: Dataset/training_set/G/600.png
inflating: Dataset/training_set/G/601.png
inflating: Dataset/training_set/G/602.png
extracting: Dataset/training_set/G/603.png
inflating: Dataset/training_set/G/604.png
inflating: Dataset/training_set/G/605.png
inflating: Dataset/training_set/G/606.png
inflating: Dataset/training_set/G/607.png
inflating: Dataset/training_set/G/608.png
inflating: Dataset/training_set/G/609.png
inflating: Dataset/training_set/G/61.png
inflating: Dataset/training_set/G/610.png
inflating: Dataset/training_set/G/611.png
inflating: Dataset/training_set/G/612.png
inflating: Dataset/training_set/G/613.png
inflating: Dataset/training_set/G/614.png
inflating: Dataset/training_set/G/615.png
inflating: Dataset/training_set/G/616.png
inflating: Dataset/training_set/G/617.png
inflating: Dataset/training_set/G/618.png
inflating: Dataset/training_set/G/619.png
inflating: Dataset/training_set/G/62.png
inflating: Dataset/training_set/G/620.png
inflating: Dataset/training_set/G/621.png
inflating: Dataset/training_set/G/622.png
inflating: Dataset/training_set/G/623.png
inflating: Dataset/training_set/G/624.png
inflating: Dataset/training_set/G/625.png

[illegible]

[illegible]

[illegible]

[illegible]


```
inflating: Dataset/training_set/G/831.png
inflating: Dataset/training_set/G/832.png
inflating: Dataset/training_set/G/833.png
inflating: Dataset/training_set/G/834.png
inflating: Dataset/training_set/G/835.png
inflating: Dataset/training_set/G/836.png
inflating: Dataset/training_set/G/837.png
inflating: Dataset/training_set/G/838.png
extracting: Dataset/training_set/G/839.png
inflating: Dataset/training_set/G/840.png
inflating: Dataset/training_set/G/841.png
inflating: Dataset/training_set/G/842.png
inflating: Dataset/training_set/G/843.png
inflating: Dataset/training_set/G/844.png
extracting: Dataset/training_set/G/845.png
inflating: Dataset/training_set/G/846.png
inflating: Dataset/training_set/G/847.png
inflating: Dataset/training_set/G/848.png
inflating: Dataset/training_set/G/849.png
inflating: Dataset/training_set/G/850.png
extracting: Dataset/training_set/G/851.png
inflating: Dataset/training_set/G/852.png
extracting: Dataset/training_set/G/853.png
inflating: Dataset/training_set/G/854.png
inflating: Dataset/training_set/G/855.png
inflating: Dataset/training_set/G/856.png
inflating: Dataset/training_set/G/857.png
inflating: Dataset/training_set/G/858.png
inflating: Dataset/training_set/G/859.png
inflating: Dataset/training_set/G/860.png
inflating: Dataset/training_set/G/861.png
inflating: Dataset/training_set/G/862.png
inflating: Dataset/training_set/G/863.png
inflating: Dataset/training_set/G/864.png
inflating: Dataset/training_set/G/865.png
inflating: Dataset/training_set/G/866.png
inflating: Dataset/training_set/G/867.png
inflating: Dataset/training_set/G/868.png
inflating: Dataset/training_set/G/869.png
inflating: Dataset/training_set/G/870.png
inflating: Dataset/training_set/G/871.png
inflating: Dataset/training_set/G/872.png
inflating: Dataset/training_set/G/873.png
inflating: Dataset/training_set/G/874.png
inflating: Dataset/training_set/G/875.png
inflating: Dataset/training_set/G/876.png
inflating: Dataset/training_set/G/877.png
inflating: Dataset/training_set/G/878.png
inflating: Dataset/training_set/G/879.png
inflating: Dataset/training_set/G/880.png
inflating: Dataset/training_set/G/881.png
inflating: Dataset/training_set/G/882.png
```

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]


```
inflating: Dataset/training_set/H/1563.png  
inflating: Dataset/training_set/H/1564.png  
inflating: Dataset/training_set/H/1565.png  
extracting: Dataset/training_set/H/1566.png  
extracting: Dataset/training_set/H/1567.png  
inflating: Dataset/training_set/H/1568.png  
inflating: Dataset/training_set/H/1569.png  
inflating: Dataset/training_set/H/1570.png  
inflating: Dataset/training_set/H/1571.png  
inflating: Dataset/training_set/H/1572.png  
extracting: Dataset/training_set/H/1573.png  
inflating: Dataset/training_set/H/1574.png  
inflating: Dataset/training_set/H/1575.png  
inflating: Dataset/training_set/H/1576.png  
inflating: Dataset/training_set/H/1577.png  
inflating: Dataset/training_set/H/1578.png  
inflating: Dataset/training_set/H/1579.png  
inflating: Dataset/training_set/H/1580.png  
inflating: Dataset/training_set/H/1581.png  
inflating: Dataset/training_set/H/1582.png  
inflating: Dataset/training_set/H/1583.png  
inflating: Dataset/training_set/H/1584.png  
inflating: Dataset/training_set/H/1585.png  
inflating: Dataset/training_set/H/1586.png  
inflating: Dataset/training_set/H/1587.png  
inflating: Dataset/training_set/H/1588.png  
inflating: Dataset/training_set/H/1589.png  
inflating: Dataset/training_set/H/1590.png  
inflating: Dataset/training_set/H/1591.png  
inflating: Dataset/training_set/H/1592.png  
inflating: Dataset/training_set/H/1593.png  
inflating: Dataset/training_set/H/1594.png  
inflating: Dataset/training_set/H/1595.png  
inflating: Dataset/training_set/H/1596.png  
inflating: Dataset/training_set/H/1597.png  
inflating: Dataset/training_set/H/1598.png  
inflating: Dataset/training_set/H/1599.png  
inflating: Dataset/training_set/H/1600.png  
inflating: Dataset/training_set/H/1601.png  
inflating: Dataset/training_set/H/1602.png  
inflating: Dataset/training_set/H/1603.png  
inflating: Dataset/training_set/H/1604.png  
inflating: Dataset/training_set/H/1605.png  
inflating: Dataset/training_set/H/1606.png  
inflating: Dataset/training_set/H/1607.png  
inflating: Dataset/training_set/H/1608.png  
inflating: Dataset/training_set/H/1609.png  
inflating: Dataset/training_set/H/1610.png  
inflating: Dataset/training_set/H/1611.png  
inflating: Dataset/training_set/H/1612.png  
inflating: Dataset/training_set/H/1613.png
```

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

inflating: Dataset/training_set/H/809.png
inflating: Dataset/training_set/H/81.png
inflating: Dataset/training_set/H/810.png
inflating: Dataset/training_set/H/811.png
inflating: Dataset/training_set/H/812.png
inflating: Dataset/training_set/H/813.png
inflating: Dataset/training_set/H/814.png
inflating: Dataset/training_set/H/815.png
inflating: Dataset/training_set/H/816.png
extracting: Dataset/training_set/H/817.png
inflating: Dataset/training_set/H/818.png
extracting: Dataset/training_set/H/819.png
inflating: Dataset/training_set/H/82.png
extracting: Dataset/training_set/H/820.png
inflating: Dataset/training_set/H/821.png
inflating: Dataset/training_set/H/822.png
inflating: Dataset/training_set/H/823.png
inflating: Dataset/training_set/H/824.png
inflating: Dataset/training_set/H/825.png
inflating: Dataset/training_set/H/826.png
inflating: Dataset/training_set/H/827.png
extracting: Dataset/training_set/H/828.png
extracting: Dataset/training_set/H/829.png
inflating: Dataset/training_set/H/83.png
inflating: Dataset/training_set/H/830.png
inflating: Dataset/training_set/H/831.png
inflating: Dataset/training_set/H/832.png
inflating: Dataset/training_set/H/833.png
inflating: Dataset/training_set/H/834.png
inflating: Dataset/training_set/H/835.png
extracting: Dataset/training_set/H/836.png
inflating: Dataset/training_set/H/837.png
inflating: Dataset/training_set/H/838.png
inflating: Dataset/training_set/H/839.png
inflating: Dataset/training_set/H/84.png
inflating: Dataset/training_set/H/840.png
inflating: Dataset/training_set/H/841.png
inflating: Dataset/training_set/H/842.png
inflating: Dataset/training_set/H/843.png
inflating: Dataset/training_set/H/844.png
inflating: Dataset/training_set/H/845.png
inflating: Dataset/training_set/H/846.png
extracting: Dataset/training_set/H/847.png
inflating: Dataset/training_set/H/848.png
inflating: Dataset/training_set/H/849.png
inflating: Dataset/training_set/H/85.png
inflating: Dataset/training_set/H/850.png
inflating: Dataset/training_set/H/851.png
extracting: Dataset/training_set/H/852.png
inflating: Dataset/training_set/H/853.png
extracting: Dataset/training_set/H/854.png
inflating: Dataset/training_set/H/855.png
inflating: Dataset/training_set/H/856.png
extracting: Dataset/training_set/H/857.png
inflating: Dataset/training_set/H/858.png
inflating: Dataset/training_set/H/859.png
inflating: Dataset/training_set/H/86.png

[illegible]

[illegible]

inflating: Dataset/training_set/H/963.png
inflating: Dataset/training_set/H/964.png
inflating: Dataset/training_set/H/965.png
inflating: Dataset/training_set/H/966.png
inflating: Dataset/training_set/H/967.png
inflating: Dataset/training_set/H/968.png
inflating: Dataset/training_set/H/969.png
inflating: Dataset/training_set/H/97.png
inflating: Dataset/training_set/H/970.png
inflating: Dataset/training_set/H/971.png
inflating: Dataset/training_set/H/972.png
inflating: Dataset/training_set/H/973.png
inflating: Dataset/training_set/H/974.png
inflating: Dataset/training_set/H/975.png
inflating: Dataset/training_set/H/976.png
inflating: Dataset/training_set/H/977.png
inflating: Dataset/training_set/H/978.png
inflating: Dataset/training_set/H/979.png
inflating: Dataset/training_set/H/98.png
inflating: Dataset/training_set/H/980.png
inflating: Dataset/training_set/H/981.png
inflating: Dataset/training_set/H/982.png
inflating: Dataset/training_set/H/983.png
inflating: Dataset/training_set/H/984.png
inflating: Dataset/training_set/H/985.png
inflating: Dataset/training_set/H/986.png
inflating: Dataset/training_set/H/987.png
inflating: Dataset/training_set/H/988.png
inflating: Dataset/training_set/H/989.png
inflating: Dataset/training_set/H/99.png
inflating: Dataset/training_set/H/990.png
inflating: Dataset/training_set/H/991.png
inflating: Dataset/training_set/H/992.png
inflating: Dataset/training_set/H/993.png
inflating: Dataset/training_set/H/994.png
inflating: Dataset/training_set/H/995.png
inflating: Dataset/training_set/H/996.png
inflating: Dataset/training_set/H/997.png
inflating: Dataset/training_set/H/998.png
inflating: Dataset/training_set/H/999.png
creating: Dataset/training_set/I/
inflating: Dataset/training_set/I/1.png
inflating: Dataset/training_set/I/10.png
inflating: Dataset/training_set/I/100.png
inflating: Dataset/training_set/I/1000.png
inflating: Dataset/training_set/I/1001.png
inflating: Dataset/training_set/I/1002.png
inflating: Dataset/training_set/I/1003.png
inflating: Dataset/training_set/I/1004.png
inflating: Dataset/training_set/I/1005.png
inflating: Dataset/training_set/I/1006.png
inflating: Dataset/training_set/I/1007.png
inflating: Dataset/training_set/I/1008.png
extracting: Dataset/training_set/I/1009.png
inflating: Dataset/training_set/I/101.png
extracting: Dataset/training_set/I/1010.png
inflating: Dataset/training_set/I/1011.png

[illegible]

inflating: Dataset/training_set/I/1064.png
inflating: Dataset/training_set/I/1065.png
inflating: Dataset/training_set/I/1066.png
inflating: Dataset/training_set/I/1067.png
inflating: Dataset/training_set/I/1068.png
extracting: Dataset/training_set/I/1069.png
inflating: Dataset/training_set/I/107.png
inflating: Dataset/training_set/I/1070.png
extracting: Dataset/training_set/I/1071.png
inflating: Dataset/training_set/I/1072.png
inflating: Dataset/training_set/I/1073.png
inflating: Dataset/training_set/I/1074.png
inflating: Dataset/training_set/I/1075.png
inflating: Dataset/training_set/I/1076.png
inflating: Dataset/training_set/I/1077.png
inflating: Dataset/training_set/I/1078.png
inflating: Dataset/training_set/I/1079.png
inflating: Dataset/training_set/I/108.png
extracting: Dataset/training_set/I/1080.png
inflating: Dataset/training_set/I/1081.png
inflating: Dataset/training_set/I/1082.png
inflating: Dataset/training_set/I/1083.png
extracting: Dataset/training_set/I/1084.png
inflating: Dataset/training_set/I/1085.png
inflating: Dataset/training_set/I/1086.png
inflating: Dataset/training_set/I/1087.png
inflating: Dataset/training_set/I/1088.png
inflating: Dataset/training_set/I/1089.png
inflating: Dataset/training_set/I/109.png
inflating: Dataset/training_set/I/1090.png
inflating: Dataset/training_set/I/1091.png
inflating: Dataset/training_set/I/1092.png
inflating: Dataset/training_set/I/1093.png
inflating: Dataset/training_set/I/1094.png
inflating: Dataset/training_set/I/1095.png
inflating: Dataset/training_set/I/1096.png
inflating: Dataset/training_set/I/1097.png
inflating: Dataset/training_set/I/1098.png
inflating: Dataset/training_set/I/1099.png
inflating: Dataset/training_set/I/11.png
inflating: Dataset/training_set/I/110.png
inflating: Dataset/training_set/I/1100.png
inflating: Dataset/training_set/I/1101.png
inflating: Dataset/training_set/I/1102.png
inflating: Dataset/training_set/I/1103.png
inflating: Dataset/training_set/I/1104.png
inflating: Dataset/training_set/I/1105.png
inflating: Dataset/training_set/I/1106.png
inflating: Dataset/training_set/I/1107.png
extracting: Dataset/training_set/I/1108.png
inflating: Dataset/training_set/I/1109.png
inflating: Dataset/training_set/I/111.png
inflating: Dataset/training_set/I/1110.png
extracting: Dataset/training_set/I/1111.png
extracting: Dataset/training_set/I/1112.png
extracting: Dataset/training_set/I/1113.png
inflating: Dataset/training_set/I/1114.png

```
inflating: Dataset/training_set/I/1115.png
extracting: Dataset/training_set/I/1116.png
extracting: Dataset/training_set/I/1117.png
  inflating: Dataset/training_set/I/1118.png
  inflating: Dataset/training_set/I/1119.png
  inflating: Dataset/training_set/I/1120.png
  inflating: Dataset/training_set/I/1121.png
extracting: Dataset/training_set/I/1122.png
  inflating: Dataset/training_set/I/1123.png
  inflating: Dataset/training_set/I/1124.png
extracting: Dataset/training_set/I/1125.png
  inflating: Dataset/training_set/I/1126.png
  inflating: Dataset/training_set/I/1127.png
  inflating: Dataset/training_set/I/1128.png
  inflating: Dataset/training_set/I/1129.png
  inflating: Dataset/training_set/I/1130.png
  inflating: Dataset/training_set/I/1131.png
  inflating: Dataset/training_set/I/1132.png
  inflating: Dataset/training_set/I/1133.png
  inflating: Dataset/training_set/I/1134.png
  inflating: Dataset/training_set/I/1135.png
  inflating: Dataset/training_set/I/1136.png
  inflating: Dataset/training_set/I/1137.png
extracting: Dataset/training_set/I/1138.png
  inflating: Dataset/training_set/I/1139.png
  inflating: Dataset/training_set/I/1140.png
extracting: Dataset/training_set/I/1141.png
  inflating: Dataset/training_set/I/1142.png
  inflating: Dataset/training_set/I/1143.png
  inflating: Dataset/training_set/I/1144.png
  inflating: Dataset/training_set/I/1145.png
  inflating: Dataset/training_set/I/1146.png
  inflating: Dataset/training_set/I/1147.png
  inflating: Dataset/training_set/I/1148.png
  inflating: Dataset/training_set/I/1149.png
  inflating: Dataset/training_set/I/1150.png
  inflating: Dataset/training_set/I/1151.png
  inflating: Dataset/training_set/I/1152.png
  inflating: Dataset/training_set/I/1153.png
  inflating: Dataset/training_set/I/1154.png
  inflating: Dataset/training_set/I/1155.png
  inflating: Dataset/training_set/I/1156.png
  inflating: Dataset/training_set/I/1157.png
  inflating: Dataset/training_set/I/1158.png
  inflating: Dataset/training_set/I/1159.png
  inflating: Dataset/training_set/I/1160.png
  inflating: Dataset/training_set/I/1161.png
  inflating: Dataset/training_set/I/1162.png
  inflating: Dataset/training_set/I/1163.png
  inflating: Dataset/training_set/I/1164.png
  inflating: Dataset/training_set/I/1165.png
  inflating: Dataset/training_set/I/1166.png
```

inflating: Dataset/training_set/I/1167.png
inflating: Dataset/training_set/I/1168.png
inflating: Dataset/training_set/I/1169.png
inflating: Dataset/training_set/I/117.png
inflating: Dataset/training_set/I/1170.png
inflating: Dataset/training_set/I/1171.png
inflating: Dataset/training_set/I/1172.png
inflating: Dataset/training_set/I/1173.png
inflating: Dataset/training_set/I/1174.png
inflating: Dataset/training_set/I/1175.png
inflating: Dataset/training_set/I/1176.png
inflating: Dataset/training_set/I/1177.png
inflating: Dataset/training_set/I/1178.png
inflating: Dataset/training_set/I/1179.png
inflating: Dataset/training_set/I/118.png
inflating: Dataset/training_set/I/1180.png
inflating: Dataset/training_set/I/1181.png
inflating: Dataset/training_set/I/1182.png
inflating: Dataset/training_set/I/1183.png
inflating: Dataset/training_set/I/1184.png
inflating: Dataset/training_set/I/1185.png
extracting: Dataset/training_set/I/1186.png
extracting: Dataset/training_set/I/1187.png
inflating: Dataset/training_set/I/1188.png
inflating: Dataset/training_set/I/1189.png
inflating: Dataset/training_set/I/119.png
inflating: Dataset/training_set/I/1190.png
inflating: Dataset/training_set/I/1191.png
extracting: Dataset/training_set/I/1192.png
inflating: Dataset/training_set/I/1193.png
inflating: Dataset/training_set/I/1194.png
extracting: Dataset/training_set/I/1195.png
inflating: Dataset/training_set/I/1196.png
extracting: Dataset/training_set/I/1197.png
inflating: Dataset/training_set/I/1198.png
extracting: Dataset/training_set/I/1199.png
inflating: Dataset/training_set/I/12.png
inflating: Dataset/training_set/I/120.png
extracting: Dataset/training_set/I/1200.png
inflating: Dataset/training_set/I/1201.png
inflating: Dataset/training_set/I/1202.png
extracting: Dataset/training_set/I/1203.png
inflating: Dataset/training_set/I/1204.png
inflating: Dataset/training_set/I/1205.png
inflating: Dataset/training_set/I/1206.png
inflating: Dataset/training_set/I/1207.png
inflating: Dataset/training_set/I/1208.png
inflating: Dataset/training_set/I/1209.png
inflating: Dataset/training_set/I/121.png
inflating: Dataset/training_set/I/1210.png
inflating: Dataset/training_set/I/1211.png
inflating: Dataset/training_set/I/1212.png
inflating: Dataset/training_set/I/1213.png
inflating: Dataset/training_set/I/1214.png
extracting: Dataset/training_set/I/1215.png
inflating: Dataset/training_set/I/1216.png
inflating: Dataset/training_set/I/1217.png

[illegible]

inflating: Dataset/training_set/I/127.png
inflating: Dataset/training_set/I/1270.png
extracting: Dataset/training_set/I/1271.png
inflating: Dataset/training_set/I/1272.png
inflating: Dataset/training_set/I/1273.png
inflating: Dataset/training_set/I/1274.png
inflating: Dataset/training_set/I/1275.png
inflating: Dataset/training_set/I/1276.png
inflating: Dataset/training_set/I/1277.png
extracting: Dataset/training_set/I/1278.png
inflating: Dataset/training_set/I/1279.png
inflating: Dataset/training_set/I/128.png
inflating: Dataset/training_set/I/1280.png
extracting: Dataset/training_set/I/1281.png
inflating: Dataset/training_set/I/1282.png
inflating: Dataset/training_set/I/1283.png
extracting: Dataset/training_set/I/1284.png
extracting: Dataset/training_set/I/1285.png
inflating: Dataset/training_set/I/1286.png
extracting: Dataset/training_set/I/1287.png
extracting: Dataset/training_set/I/1288.png
inflating: Dataset/training_set/I/1289.png
inflating: Dataset/training_set/I/129.png
extracting: Dataset/training_set/I/1290.png
inflating: Dataset/training_set/I/1291.png
inflating: Dataset/training_set/I/1292.png
inflating: Dataset/training_set/I/1293.png
extracting: Dataset/training_set/I/1294.png
extracting: Dataset/training_set/I/1295.png
inflating: Dataset/training_set/I/1296.png
inflating: Dataset/training_set/I/1297.png
inflating: Dataset/training_set/I/1298.png
extracting: Dataset/training_set/I/1299.png
inflating: Dataset/training_set/I/13.png
inflating: Dataset/training_set/I/130.png
inflating: Dataset/training_set/I/1300.png
inflating: Dataset/training_set/I/1301.png
inflating: Dataset/training_set/I/1302.png
extracting: Dataset/training_set/I/1303.png
extracting: Dataset/training_set/I/1304.png
extracting: Dataset/training_set/I/1305.png
extracting: Dataset/training_set/I/1306.png
inflating: Dataset/training_set/I/1307.png
inflating: Dataset/training_set/I/1308.png
inflating: Dataset/training_set/I/1309.png
inflating: Dataset/training_set/I/131.png
inflating: Dataset/training_set/I/1310.png
extracting: Dataset/training_set/I/1311.png
inflating: Dataset/training_set/I/1312.png
extracting: Dataset/training_set/I/1313.png
inflating: Dataset/training_set/I/1314.png
inflating: Dataset/training_set/I/1315.png
inflating: Dataset/training_set/I/1316.png
extracting: Dataset/training_set/I/1317.png
inflating: Dataset/training_set/I/1318.png
inflating: Dataset/training_set/I/1319.png
inflating: Dataset/training_set/I/132.png

[illegible]

inflating: Dataset/training_set/I/1372.png
inflating: Dataset/training_set/I/1373.png
inflating: Dataset/training_set/I/1374.png
inflating: Dataset/training_set/I/1375.png
extracting: Dataset/training_set/I/1376.png
inflating: Dataset/training_set/I/1377.png
inflating: Dataset/training_set/I/1378.png
inflating: Dataset/training_set/I/1379.png
inflating: Dataset/training_set/I/138.png
inflating: Dataset/training_set/I/1380.png
inflating: Dataset/training_set/I/1381.png
inflating: Dataset/training_set/I/1382.png
inflating: Dataset/training_set/I/1383.png
extracting: Dataset/training_set/I/1384.png
inflating: Dataset/training_set/I/1385.png
inflating: Dataset/training_set/I/1386.png
extracting: Dataset/training_set/I/1387.png
extracting: Dataset/training_set/I/1388.png
inflating: Dataset/training_set/I/1389.png
inflating: Dataset/training_set/I/139.png
extracting: Dataset/training_set/I/1390.png
extracting: Dataset/training_set/I/1391.png
extracting: Dataset/training_set/I/1392.png
extracting: Dataset/training_set/I/1393.png
inflating: Dataset/training_set/I/1394.png
inflating: Dataset/training_set/I/1395.png
inflating: Dataset/training_set/I/1396.png
inflating: Dataset/training_set/I/1397.png
inflating: Dataset/training_set/I/1398.png
inflating: Dataset/training_set/I/1399.png
inflating: Dataset/training_set/I/14.png
inflating: Dataset/training_set/I/140.png
inflating: Dataset/training_set/I/1400.png
extracting: Dataset/training_set/I/1401.png
inflating: Dataset/training_set/I/1402.png
inflating: Dataset/training_set/I/1403.png
inflating: Dataset/training_set/I/1404.png
inflating: Dataset/training_set/I/1405.png
inflating: Dataset/training_set/I/1406.png
inflating: Dataset/training_set/I/1407.png
inflating: Dataset/training_set/I/1408.png
inflating: Dataset/training_set/I/1409.png
inflating: Dataset/training_set/I/141.png
inflating: Dataset/training_set/I/1410.png
inflating: Dataset/training_set/I/1411.png
inflating: Dataset/training_set/I/1412.png
inflating: Dataset/training_set/I/1413.png
extracting: Dataset/training_set/I/1414.png
inflating: Dataset/training_set/I/1415.png
inflating: Dataset/training_set/I/1416.png
inflating: Dataset/training_set/I/1417.png
inflating: Dataset/training_set/I/1418.png
inflating: Dataset/training_set/I/1419.png
inflating: Dataset/training_set/I/142.png
inflating: Dataset/training_set/I/1420.png
inflating: Dataset/training_set/I/1421.png
inflating: Dataset/training_set/I/1422.png

inflating: Dataset/training_set/I/1423.png
extracting: Dataset/training_set/I/1424.png
extracting: Dataset/training_set/I/1425.png
extracting: Dataset/training_set/I/1426.png
inflating: Dataset/training_set/I/1427.png
inflating: Dataset/training_set/I/1428.png
inflating: Dataset/training_set/I/1429.png
inflating: Dataset/training_set/I/143.png
extracting: Dataset/training_set/I/1430.png
extracting: Dataset/training_set/I/1431.png
extracting: Dataset/training_set/I/1432.png
extracting: Dataset/training_set/I/1433.png
extracting: Dataset/training_set/I/1434.png
inflating: Dataset/training_set/I/1435.png
extracting: Dataset/training_set/I/1436.png
inflating: Dataset/training_set/I/1437.png
extracting: Dataset/training_set/I/1438.png
inflating: Dataset/training_set/I/1439.png
inflating: Dataset/training_set/I/144.png
extracting: Dataset/training_set/I/1440.png
extracting: Dataset/training_set/I/1441.png
inflating: Dataset/training_set/I/1442.png
inflating: Dataset/training_set/I/1443.png
inflating: Dataset/training_set/I/1444.png
inflating: Dataset/training_set/I/1445.png
inflating: Dataset/training_set/I/1446.png
inflating: Dataset/training_set/I/1447.png
extracting: Dataset/training_set/I/1448.png
extracting: Dataset/training_set/I/1449.png
inflating: Dataset/training_set/I/145.png
extracting: Dataset/training_set/I/1450.png
inflating: Dataset/training_set/I/1451.png
extracting: Dataset/training_set/I/1452.png
extracting: Dataset/training_set/I/1453.png
extracting: Dataset/training_set/I/1454.png
extracting: Dataset/training_set/I/1455.png
extracting: Dataset/training_set/I/1456.png
inflating: Dataset/training_set/I/1457.png
inflating: Dataset/training_set/I/1458.png
inflating: Dataset/training_set/I/1459.png
inflating: Dataset/training_set/I/146.png
inflating: Dataset/training_set/I/1460.png
inflating: Dataset/training_set/I/1461.png
inflating: Dataset/training_set/I/1462.png
inflating: Dataset/training_set/I/1463.png
inflating: Dataset/training_set/I/1464.png
inflating: Dataset/training_set/I/1465.png
inflating: Dataset/training_set/I/1466.png
inflating: Dataset/training_set/I/1467.png
extracting: Dataset/training_set/I/1468.png
extracting: Dataset/training_set/I/1469.png
inflating: Dataset/training_set/I/147.png
extracting: Dataset/training_set/I/1470.png
inflating: Dataset/training_set/I/1471.png
extracting: Dataset/training_set/I/1472.png
extracting: Dataset/training_set/I/1473.png
inflating: Dataset/training_set/I/1474.png

inflating: Dataset/training_set/I/1475.png
inflating: Dataset/training_set/I/1476.png
inflating: Dataset/training_set/I/1477.png
inflating: Dataset/training_set/I/1478.png
inflating: Dataset/training_set/I/1479.png
inflating: Dataset/training_set/I/148.png
inflating: Dataset/training_set/I/1480.png
inflating: Dataset/training_set/I/1481.png
inflating: Dataset/training_set/I/1482.png
extracting: Dataset/training_set/I/1483.png
inflating: Dataset/training_set/I/1484.png
inflating: Dataset/training_set/I/1485.png
extracting: Dataset/training_set/I/1486.png
extracting: Dataset/training_set/I/1487.png
inflating: Dataset/training_set/I/1488.png
inflating: Dataset/training_set/I/1489.png
inflating: Dataset/training_set/I/149.png
inflating: Dataset/training_set/I/1490.png
extracting: Dataset/training_set/I/1491.png
extracting: Dataset/training_set/I/1492.png
extracting: Dataset/training_set/I/1493.png
extracting: Dataset/training_set/I/1494.png
extracting: Dataset/training_set/I/1495.png
inflating: Dataset/training_set/I/1496.png
extracting: Dataset/training_set/I/1497.png
extracting: Dataset/training_set/I/1498.png
extracting: Dataset/training_set/I/1499.png
inflating: Dataset/training_set/I/15.png
inflating: Dataset/training_set/I/150.png
inflating: Dataset/training_set/I/1500.png
extracting: Dataset/training_set/I/1501.png
extracting: Dataset/training_set/I/1502.png
inflating: Dataset/training_set/I/1503.png
inflating: Dataset/training_set/I/1504.png
extracting: Dataset/training_set/I/1505.png
extracting: Dataset/training_set/I/1506.png
inflating: Dataset/training_set/I/1507.png
inflating: Dataset/training_set/I/1508.png
inflating: Dataset/training_set/I/1509.png
inflating: Dataset/training_set/I/151.png
inflating: Dataset/training_set/I/1510.png
inflating: Dataset/training_set/I/1511.png
extracting: Dataset/training_set/I/1512.png
extracting: Dataset/training_set/I/1513.png
extracting: Dataset/training_set/I/1514.png
extracting: Dataset/training_set/I/1515.png
extracting: Dataset/training_set/I/1516.png
extracting: Dataset/training_set/I/1517.png
inflating: Dataset/training_set/I/1518.png
inflating: Dataset/training_set/I/1519.png
inflating: Dataset/training_set/I/152.png
extracting: Dataset/training_set/I/1520.png
extracting: Dataset/training_set/I/1521.png
extracting: Dataset/training_set/I/1522.png
extracting: Dataset/training_set/I/1523.png
inflating: Dataset/training_set/I/1524.png
inflating: Dataset/training_set/I/1525.png

inflating: Dataset/training_set/I/1526.png
extracting: Dataset/training_set/I/1527.png
extracting: Dataset/training_set/I/1528.png
extracting: Dataset/training_set/I/1529.png
inflating: Dataset/training_set/I/153.png
inflating: Dataset/training_set/I/1530.png
inflating: Dataset/training_set/I/1531.png
inflating: Dataset/training_set/I/1532.png
inflating: Dataset/training_set/I/1533.png
inflating: Dataset/training_set/I/1534.png
inflating: Dataset/training_set/I/1535.png
inflating: Dataset/training_set/I/1536.png
inflating: Dataset/training_set/I/1537.png
inflating: Dataset/training_set/I/1538.png
inflating: Dataset/training_set/I/1539.png
inflating: Dataset/training_set/I/154.png
inflating: Dataset/training_set/I/1540.png
extracting: Dataset/training_set/I/1541.png
extracting: Dataset/training_set/I/1542.png
extracting: Dataset/training_set/I/1543.png
inflating: Dataset/training_set/I/1544.png
inflating: Dataset/training_set/I/1545.png
inflating: Dataset/training_set/I/1546.png
extracting: Dataset/training_set/I/1547.png
extracting: Dataset/training_set/I/1548.png
extracting: Dataset/training_set/I/1549.png
inflating: Dataset/training_set/I/155.png
inflating: Dataset/training_set/I/1550.png
inflating: Dataset/training_set/I/1551.png
extracting: Dataset/training_set/I/1552.png
inflating: Dataset/training_set/I/1553.png
extracting: Dataset/training_set/I/1554.png
inflating: Dataset/training_set/I/1555.png
inflating: Dataset/training_set/I/1556.png
inflating: Dataset/training_set/I/1557.png
inflating: Dataset/training_set/I/1558.png
inflating: Dataset/training_set/I/1559.png
inflating: Dataset/training_set/I/156.png
inflating: Dataset/training_set/I/1560.png
extracting: Dataset/training_set/I/1561.png
inflating: Dataset/training_set/I/1562.png
extracting: Dataset/training_set/I/1563.png
inflating: Dataset/training_set/I/1564.png
inflating: Dataset/training_set/I/1565.png
extracting: Dataset/training_set/I/1566.png
extracting: Dataset/training_set/I/1567.png
inflating: Dataset/training_set/I/1568.png
extracting: Dataset/training_set/I/1569.png
inflating: Dataset/training_set/I/157.png
extracting: Dataset/training_set/I/1570.png
extracting: Dataset/training_set/I/1571.png
extracting: Dataset/training_set/I/1572.png
extracting: Dataset/training_set/I/1573.png
extracting: Dataset/training_set/I/1574.png
extracting: Dataset/training_set/I/1575.png
extracting: Dataset/training_set/I/1576.png
extracting: Dataset/training_set/I/1577.png

inflating: Dataset/training_set/I/1578.png
inflating: Dataset/training_set/I/1579.png
inflating: Dataset/training_set/I/158.png
inflating: Dataset/training_set/I/1580.png
inflating: Dataset/training_set/I/1581.png
inflating: Dataset/training_set/I/1582.png
inflating: Dataset/training_set/I/1583.png
extracting: Dataset/training_set/I/1584.png
inflating: Dataset/training_set/I/1585.png
inflating: Dataset/training_set/I/1586.png
inflating: Dataset/training_set/I/1587.png
extracting: Dataset/training_set/I/1588.png
inflating: Dataset/training_set/I/1589.png
inflating: Dataset/training_set/I/159.png
inflating: Dataset/training_set/I/1590.png
inflating: Dataset/training_set/I/1591.png
inflating: Dataset/training_set/I/1592.png
inflating: Dataset/training_set/I/1593.png
inflating: Dataset/training_set/I/1594.png
inflating: Dataset/training_set/I/1595.png
extracting: Dataset/training_set/I/1596.png
inflating: Dataset/training_set/I/1597.png
inflating: Dataset/training_set/I/1598.png
extracting: Dataset/training_set/I/1599.png
inflating: Dataset/training_set/I/16.png
inflating: Dataset/training_set/I/160.png
inflating: Dataset/training_set/I/1600.png
inflating: Dataset/training_set/I/1601.png
inflating: Dataset/training_set/I/1602.png
inflating: Dataset/training_set/I/1603.png
extracting: Dataset/training_set/I/1604.png
inflating: Dataset/training_set/I/1605.png
extracting: Dataset/training_set/I/1606.png
inflating: Dataset/training_set/I/1607.png
inflating: Dataset/training_set/I/1608.png
inflating: Dataset/training_set/I/1609.png
inflating: Dataset/training_set/I/161.png
inflating: Dataset/training_set/I/1610.png
extracting: Dataset/training_set/I/1611.png
inflating: Dataset/training_set/I/1612.png
inflating: Dataset/training_set/I/1613.png
inflating: Dataset/training_set/I/1614.png
extracting: Dataset/training_set/I/1615.png
inflating: Dataset/training_set/I/1616.png
inflating: Dataset/training_set/I/1617.png
inflating: Dataset/training_set/I/1618.png
inflating: Dataset/training_set/I/1619.png
inflating: Dataset/training_set/I/162.png
inflating: Dataset/training_set/I/1620.png
inflating: Dataset/training_set/I/1621.png
inflating: Dataset/training_set/I/1622.png
inflating: Dataset/training_set/I/1623.png
inflating: Dataset/training_set/I/1624.png
extracting: Dataset/training_set/I/1625.png
inflating: Dataset/training_set/I/1626.png
inflating: Dataset/training_set/I/1627.png
inflating: Dataset/training_set/I/1628.png

inflating: Dataset/training_set/I/1629.png
inflating: Dataset/training_set/I/163.png
extracting: Dataset/training_set/I/1630.png
inflating: Dataset/training_set/I/1631.png
inflating: Dataset/training_set/I/1632.png
inflating: Dataset/training_set/I/1633.png
inflating: Dataset/training_set/I/1634.png
inflating: Dataset/training_set/I/1635.png
inflating: Dataset/training_set/I/1636.png
inflating: Dataset/training_set/I/1637.png
inflating: Dataset/training_set/I/1638.png
inflating: Dataset/training_set/I/1639.png
inflating: Dataset/training_set/I/164.png
extracting: Dataset/training_set/I/1640.png
extracting: Dataset/training_set/I/1641.png
inflating: Dataset/training_set/I/1642.png
inflating: Dataset/training_set/I/1643.png
extracting: Dataset/training_set/I/1644.png
inflating: Dataset/training_set/I/1645.png
extracting: Dataset/training_set/I/1646.png
inflating: Dataset/training_set/I/1647.png
inflating: Dataset/training_set/I/1648.png
inflating: Dataset/training_set/I/1649.png
inflating: Dataset/training_set/I/165.png
extracting: Dataset/training_set/I/1650.png
inflating: Dataset/training_set/I/1651.png
inflating: Dataset/training_set/I/1652.png
inflating: Dataset/training_set/I/1653.png
inflating: Dataset/training_set/I/1654.png
inflating: Dataset/training_set/I/1655.png
inflating: Dataset/training_set/I/1656.png
inflating: Dataset/training_set/I/1657.png
inflating: Dataset/training_set/I/1658.png
inflating: Dataset/training_set/I/1659.png
inflating: Dataset/training_set/I/166.png
inflating: Dataset/training_set/I/1660.png
inflating: Dataset/training_set/I/1661.png
extracting: Dataset/training_set/I/1662.png
inflating: Dataset/training_set/I/1663.png
inflating: Dataset/training_set/I/1664.png
extracting: Dataset/training_set/I/1665.png
inflating: Dataset/training_set/I/1666.png
extracting: Dataset/training_set/I/1667.png
extracting: Dataset/training_set/I/1668.png
inflating: Dataset/training_set/I/1669.png
inflating: Dataset/training_set/I/167.png
inflating: Dataset/training_set/I/1670.png
extracting: Dataset/training_set/I/1671.png
extracting: Dataset/training_set/I/1672.png
extracting: Dataset/training_set/I/1673.png
inflating: Dataset/training_set/I/1674.png
inflating: Dataset/training_set/I/1675.png
inflating: Dataset/training_set/I/1676.png
inflating: Dataset/training_set/I/1677.png
extracting: Dataset/training_set/I/1678.png
inflating: Dataset/training_set/I/1679.png
inflating: Dataset/training_set/I/168.png

inflating: Dataset/training_set/I/1680.png
extracting: Dataset/training_set/I/1681.png
inflating: Dataset/training_set/I/1682.png
extracting: Dataset/training_set/I/1683.png
inflating: Dataset/training_set/I/1684.png
inflating: Dataset/training_set/I/1685.png
inflating: Dataset/training_set/I/1686.png
inflating: Dataset/training_set/I/1687.png
inflating: Dataset/training_set/I/1688.png
inflating: Dataset/training_set/I/1689.png
inflating: Dataset/training_set/I/169.png
inflating: Dataset/training_set/I/1690.png
inflating: Dataset/training_set/I/1691.png
inflating: Dataset/training_set/I/1692.png
inflating: Dataset/training_set/I/1693.png
inflating: Dataset/training_set/I/1694.png
inflating: Dataset/training_set/I/1695.png
inflating: Dataset/training_set/I/1696.png
inflating: Dataset/training_set/I/1697.png
inflating: Dataset/training_set/I/1698.png
inflating: Dataset/training_set/I/1699.png
inflating: Dataset/training_set/I/17.png
inflating: Dataset/training_set/I/170.png
inflating: Dataset/training_set/I/1700.png
extracting: Dataset/training_set/I/1701.png
inflating: Dataset/training_set/I/1702.png
extracting: Dataset/training_set/I/1703.png
extracting: Dataset/training_set/I/1704.png
inflating: Dataset/training_set/I/1705.png
inflating: Dataset/training_set/I/1706.png
inflating: Dataset/training_set/I/1707.png
inflating: Dataset/training_set/I/1708.png
inflating: Dataset/training_set/I/1709.png
inflating: Dataset/training_set/I/171.png
inflating: Dataset/training_set/I/1710.png
inflating: Dataset/training_set/I/1711.png
inflating: Dataset/training_set/I/1712.png
inflating: Dataset/training_set/I/1713.png
inflating: Dataset/training_set/I/1714.png
inflating: Dataset/training_set/I/1715.png
inflating: Dataset/training_set/I/1716.png
inflating: Dataset/training_set/I/1717.png
inflating: Dataset/training_set/I/1718.png
extracting: Dataset/training_set/I/1719.png
inflating: Dataset/training_set/I/172.png
extracting: Dataset/training_set/I/1720.png
extracting: Dataset/training_set/I/1721.png
inflating: Dataset/training_set/I/1722.png
extracting: Dataset/training_set/I/1723.png
inflating: Dataset/training_set/I/1724.png
inflating: Dataset/training_set/I/1725.png
inflating: Dataset/training_set/I/1726.png
inflating: Dataset/training_set/I/1727.png
inflating: Dataset/training_set/I/1728.png
inflating: Dataset/training_set/I/1729.png
inflating: Dataset/training_set/I/173.png
inflating: Dataset/training_set/I/1730.png

[illegible]

[illegible]

[illegible]

[illegible]

inflating: Dataset/training_set/I/361.png
inflating: Dataset/training_set/I/362.png
inflating: Dataset/training_set/I/363.png
inflating: Dataset/training_set/I/364.png
inflating: Dataset/training_set/I/365.png
inflating: Dataset/training_set/I/366.png
inflating: Dataset/training_set/I/367.png
inflating: Dataset/training_set/I/368.png
inflating: Dataset/training_set/I/369.png
inflating: Dataset/training_set/I/37.png
inflating: Dataset/training_set/I/370.png
inflating: Dataset/training_set/I/371.png
inflating: Dataset/training_set/I/372.png
extracting: Dataset/training_set/I/373.png
inflating: Dataset/training_set/I/374.png
inflating: Dataset/training_set/I/375.png
inflating: Dataset/training_set/I/376.png
inflating: Dataset/training_set/I/377.png
inflating: Dataset/training_set/I/378.png
inflating: Dataset/training_set/I/379.png
inflating: Dataset/training_set/I/38.png
inflating: Dataset/training_set/I/380.png
inflating: Dataset/training_set/I/381.png
inflating: Dataset/training_set/I/382.png
inflating: Dataset/training_set/I/383.png
inflating: Dataset/training_set/I/384.png
extracting: Dataset/training_set/I/385.png
inflating: Dataset/training_set/I/386.png
extracting: Dataset/training_set/I/387.png
inflating: Dataset/training_set/I/388.png
inflating: Dataset/training_set/I/389.png
inflating: Dataset/training_set/I/39.png
inflating: Dataset/training_set/I/390.png
inflating: Dataset/training_set/I/391.png
inflating: Dataset/training_set/I/392.png
extracting: Dataset/training_set/I/393.png
inflating: Dataset/training_set/I/394.png
inflating: Dataset/training_set/I/395.png
inflating: Dataset/training_set/I/396.png
inflating: Dataset/training_set/I/397.png
inflating: Dataset/training_set/I/398.png
inflating: Dataset/training_set/I/399.png
inflating: Dataset/training_set/I/4.png
extracting: Dataset/training_set/I/40.png
inflating: Dataset/training_set/I/400.png
inflating: Dataset/training_set/I/401.png
inflating: Dataset/training_set/I/402.png
extracting: Dataset/training_set/I/403.png
extracting: Dataset/training_set/I/404.png
inflating: Dataset/training_set/I/405.png
inflating: Dataset/training_set/I/406.png
inflating: Dataset/training_set/I/407.png
inflating: Dataset/training_set/I/408.png
inflating: Dataset/training_set/I/409.png
extracting: Dataset/training_set/I/41.png
inflating: Dataset/training_set/I/410.png
inflating: Dataset/training_set/I/411.png

inflating: Dataset/training_set/I/412.png
inflating: Dataset/training_set/I/413.png
inflating: Dataset/training_set/I/414.png
inflating: Dataset/training_set/I/415.png
inflating: Dataset/training_set/I/416.png
inflating: Dataset/training_set/I/417.png
inflating: Dataset/training_set/I/418.png
inflating: Dataset/training_set/I/419.png
inflating: Dataset/training_set/I/42.png
inflating: Dataset/training_set/I/420.png
inflating: Dataset/training_set/I/421.png
inflating: Dataset/training_set/I/422.png
inflating: Dataset/training_set/I/423.png
inflating: Dataset/training_set/I/424.png
inflating: Dataset/training_set/I/425.png
inflating: Dataset/training_set/I/426.png
inflating: Dataset/training_set/I/427.png
inflating: Dataset/training_set/I/428.png
extracting: Dataset/training_set/I/429.png
extracting: Dataset/training_set/I/43.png
inflating: Dataset/training_set/I/430.png
inflating: Dataset/training_set/I/431.png
inflating: Dataset/training_set/I/432.png
inflating: Dataset/training_set/I/433.png
inflating: Dataset/training_set/I/434.png
inflating: Dataset/training_set/I/435.png
inflating: Dataset/training_set/I/436.png
inflating: Dataset/training_set/I/437.png
inflating: Dataset/training_set/I/438.png
inflating: Dataset/training_set/I/439.png
inflating: Dataset/training_set/I/44.png
inflating: Dataset/training_set/I/440.png
inflating: Dataset/training_set/I/441.png
inflating: Dataset/training_set/I/442.png
inflating: Dataset/training_set/I/443.png
extracting: Dataset/training_set/I/444.png
inflating: Dataset/training_set/I/445.png
inflating: Dataset/training_set/I/446.png
extracting: Dataset/training_set/I/447.png
inflating: Dataset/training_set/I/448.png
inflating: Dataset/training_set/I/449.png
inflating: Dataset/training_set/I/45.png
inflating: Dataset/training_set/I/450.png
inflating: Dataset/training_set/I/451.png
inflating: Dataset/training_set/I/452.png
inflating: Dataset/training_set/I/453.png
inflating: Dataset/training_set/I/454.png
extracting: Dataset/training_set/I/455.png
inflating: Dataset/training_set/I/456.png
extracting: Dataset/training_set/I/457.png
inflating: Dataset/training_set/I/458.png
extracting: Dataset/training_set/I/459.png
inflating: Dataset/training_set/I/46.png
extracting: Dataset/training_set/I/460.png
inflating: Dataset/training_set/I/461.png
inflating: Dataset/training_set/I/462.png
inflating: Dataset/training_set/I/463.png

extracting: Dataset/training_set/I/464.png
inflating: Dataset/training_set/I/465.png
inflating: Dataset/training_set/I/466.png
inflating: Dataset/training_set/I/467.png
extracting: Dataset/training_set/I/468.png
extracting: Dataset/training_set/I/469.png
inflating: Dataset/training_set/I/47.png
inflating: Dataset/training_set/I/470.png
inflating: Dataset/training_set/I/471.png
inflating: Dataset/training_set/I/472.png
inflating: Dataset/training_set/I/473.png
inflating: Dataset/training_set/I/474.png
inflating: Dataset/training_set/I/475.png
extracting: Dataset/training_set/I/476.png
extracting: Dataset/training_set/I/477.png
inflating: Dataset/training_set/I/478.png
extracting: Dataset/training_set/I/479.png
inflating: Dataset/training_set/I/48.png
inflating: Dataset/training_set/I/480.png
inflating: Dataset/training_set/I/481.png
extracting: Dataset/training_set/I/482.png
inflating: Dataset/training_set/I/483.png
extracting: Dataset/training_set/I/484.png
inflating: Dataset/training_set/I/485.png
inflating: Dataset/training_set/I/486.png
inflating: Dataset/training_set/I/487.png
extracting: Dataset/training_set/I/488.png
inflating: Dataset/training_set/I/489.png
extracting: Dataset/training_set/I/49.png
extracting: Dataset/training_set/I/490.png
extracting: Dataset/training_set/I/491.png
extracting: Dataset/training_set/I/492.png
extracting: Dataset/training_set/I/493.png
inflating: Dataset/training_set/I/494.png
extracting: Dataset/training_set/I/495.png
extracting: Dataset/training_set/I/496.png
extracting: Dataset/training_set/I/497.png
inflating: Dataset/training_set/I/498.png
extracting: Dataset/training_set/I/499.png
inflating: Dataset/training_set/I/5.png
inflating: Dataset/training_set/I/50.png
inflating: Dataset/training_set/I/500.png
inflating: Dataset/training_set/I/501.png
extracting: Dataset/training_set/I/502.png
inflating: Dataset/training_set/I/503.png
inflating: Dataset/training_set/I/504.png
inflating: Dataset/training_set/I/505.png
inflating: Dataset/training_set/I/506.png
inflating: Dataset/training_set/I/507.png
inflating: Dataset/training_set/I/508.png
inflating: Dataset/training_set/I/509.png
inflating: Dataset/training_set/I/51.png
inflating: Dataset/training_set/I/510.png
inflating: Dataset/training_set/I/511.png
inflating: Dataset/training_set/I/512.png
inflating: Dataset/training_set/I/513.png
inflating: Dataset/training_set/I/514.png

[illegible]

inflating: Dataset/training_set/I/567.png
inflating: Dataset/training_set/I/568.png
inflating: Dataset/training_set/I/569.png
inflating: Dataset/training_set/I/57.png
inflating: Dataset/training_set/I/570.png
inflating: Dataset/training_set/I/571.png
inflating: Dataset/training_set/I/572.png
inflating: Dataset/training_set/I/573.png
extracting: Dataset/training_set/I/574.png
extracting: Dataset/training_set/I/575.png
inflating: Dataset/training_set/I/576.png
inflating: Dataset/training_set/I/577.png
inflating: Dataset/training_set/I/578.png
extracting: Dataset/training_set/I/579.png
inflating: Dataset/training_set/I/58.png
inflating: Dataset/training_set/I/580.png
inflating: Dataset/training_set/I/581.png
inflating: Dataset/training_set/I/582.png
inflating: Dataset/training_set/I/583.png
inflating: Dataset/training_set/I/584.png
inflating: Dataset/training_set/I/585.png
inflating: Dataset/training_set/I/586.png
inflating: Dataset/training_set/I/587.png
inflating: Dataset/training_set/I/588.png
inflating: Dataset/training_set/I/589.png
inflating: Dataset/training_set/I/59.png
inflating: Dataset/training_set/I/590.png
inflating: Dataset/training_set/I/591.png
extracting: Dataset/training_set/I/592.png
inflating: Dataset/training_set/I/593.png
inflating: Dataset/training_set/I/594.png
inflating: Dataset/training_set/I/595.png
inflating: Dataset/training_set/I/596.png
inflating: Dataset/training_set/I/597.png
inflating: Dataset/training_set/I/598.png
inflating: Dataset/training_set/I/599.png
inflating: Dataset/training_set/I/6.png
inflating: Dataset/training_set/I/60.png
extracting: Dataset/training_set/I/600.png
inflating: Dataset/training_set/I/601.png
inflating: Dataset/training_set/I/602.png
inflating: Dataset/training_set/I/603.png
inflating: Dataset/training_set/I/604.png
inflating: Dataset/training_set/I/605.png
inflating: Dataset/training_set/I/606.png
inflating: Dataset/training_set/I/607.png
inflating: Dataset/training_set/I/608.png
inflating: Dataset/training_set/I/609.png
inflating: Dataset/training_set/I/61.png
inflating: Dataset/training_set/I/610.png
inflating: Dataset/training_set/I/611.png
inflating: Dataset/training_set/I/612.png
inflating: Dataset/training_set/I/613.png
extracting: Dataset/training_set/I/614.png
inflating: Dataset/training_set/I/615.png
inflating: Dataset/training_set/I/616.png
inflating: Dataset/training_set/I/617.png

```
inflating: Dataset/training_set/I/618.png  
inflating: Dataset/training_set/I/619.png  
inflating: Dataset/training_set/I/620.png  
inflating: Dataset/training_set/I/621.png  
inflating: Dataset/training_set/I/622.png  
inflating: Dataset/training_set/I/623.png  
inflating: Dataset/training_set/I/624.png  
inflating: Dataset/training_set/I/625.png  
inflating: Dataset/training_set/I/626.png  
inflating: Dataset/training_set/I/627.png  
inflating: Dataset/training_set/I/628.png  
inflating: Dataset/training_set/I/629.png  
inflating: Dataset/training_set/I/630.png  
inflating: Dataset/training_set/I/631.png  
inflating: Dataset/training_set/I/632.png  
inflating: Dataset/training_set/I/633.png  
inflating: Dataset/training_set/I/634.png  
inflating: Dataset/training_set/I/635.png  
inflating: Dataset/training_set/I/636.png  
inflating: Dataset/training_set/I/637.png  
inflating: Dataset/training_set/I/638.png  
inflating: Dataset/training_set/I/639.png  
inflating: Dataset/training_set/I/640.png  
inflating: Dataset/training_set/I/641.png  
inflating: Dataset/training_set/I/642.png  
inflating: Dataset/training_set/I/643.png  
inflating: Dataset/training_set/I/644.png  
inflating: Dataset/training_set/I/645.png  
inflating: Dataset/training_set/I/646.png  
inflating: Dataset/training_set/I/647.png  
inflating: Dataset/training_set/I/648.png  
inflating: Dataset/training_set/I/649.png  
inflating: Dataset/training_set/I/650.png  
inflating: Dataset/training_set/I/651.png  
inflating: Dataset/training_set/I/652.png  
inflating: Dataset/training_set/I/653.png  
inflating: Dataset/training_set/I/654.png  
inflating: Dataset/training_set/I/655.png  
inflating: Dataset/training_set/I/656.png  
extracting: Dataset/training_set/I/657.png  
extracting: Dataset/training_set/I/658.png  
inflating: Dataset/training_set/I/659.png  
inflating: Dataset/training_set/I/660.png  
inflating: Dataset/training_set/I/661.png  
inflating: Dataset/training_set/I/662.png  
inflating: Dataset/training_set/I/663.png  
extracting: Dataset/training_set/I/664.png  
inflating: Dataset/training_set/I/665.png  
inflating: Dataset/training_set/I/666.png  
inflating: Dataset/training_set/I/667.png  
inflating: Dataset/training_set/I/668.png  
inflating: Dataset/training_set/I/669.png
```

inflating: Dataset/training_set/I/67.png
inflating: Dataset/training_set/I/670.png
inflating: Dataset/training_set/I/671.png
inflating: Dataset/training_set/I/672.png
inflating: Dataset/training_set/I/673.png
inflating: Dataset/training_set/I/674.png
inflating: Dataset/training_set/I/675.png
inflating: Dataset/training_set/I/676.png
inflating: Dataset/training_set/I/677.png
extracting: Dataset/training_set/I/678.png
inflating: Dataset/training_set/I/679.png
inflating: Dataset/training_set/I/68.png
inflating: Dataset/training_set/I/680.png
inflating: Dataset/training_set/I/681.png
inflating: Dataset/training_set/I/682.png
extracting: Dataset/training_set/I/683.png
inflating: Dataset/training_set/I/684.png
inflating: Dataset/training_set/I/685.png
inflating: Dataset/training_set/I/686.png
inflating: Dataset/training_set/I/687.png
inflating: Dataset/training_set/I/688.png
inflating: Dataset/training_set/I/689.png
inflating: Dataset/training_set/I/69.png
inflating: Dataset/training_set/I/690.png
inflating: Dataset/training_set/I/691.png
inflating: Dataset/training_set/I/692.png
inflating: Dataset/training_set/I/693.png
extracting: Dataset/training_set/I/694.png
inflating: Dataset/training_set/I/695.png
extracting: Dataset/training_set/I/696.png
extracting: Dataset/training_set/I/697.png
inflating: Dataset/training_set/I/698.png
inflating: Dataset/training_set/I/699.png
extracting: Dataset/training_set/I/7.png
extracting: Dataset/training_set/I/70.png
extracting: Dataset/training_set/I/700.png
inflating: Dataset/training_set/I/701.png
inflating: Dataset/training_set/I/702.png
inflating: Dataset/training_set/I/703.png
inflating: Dataset/training_set/I/704.png
extracting: Dataset/training_set/I/705.png
inflating: Dataset/training_set/I/706.png
inflating: Dataset/training_set/I/707.png
inflating: Dataset/training_set/I/708.png
inflating: Dataset/training_set/I/709.png
inflating: Dataset/training_set/I/71.png
inflating: Dataset/training_set/I/710.png
inflating: Dataset/training_set/I/711.png
inflating: Dataset/training_set/I/712.png
inflating: Dataset/training_set/I/713.png
inflating: Dataset/training_set/I/714.png
inflating: Dataset/training_set/I/715.png
inflating: Dataset/training_set/I/716.png
inflating: Dataset/training_set/I/717.png
inflating: Dataset/training_set/I/718.png
inflating: Dataset/training_set/I/719.png
inflating: Dataset/training_set/I/72.png

[illegible]

[illegible]

[illegible]

inflating: Dataset/training_set/I/875.png
inflating: Dataset/training_set/I/876.png
inflating: Dataset/training_set/I/877.png
inflating: Dataset/training_set/I/878.png
inflating: Dataset/training_set/I/879.png
inflating: Dataset/training_set/I/88.png
inflating: Dataset/training_set/I/880.png
inflating: Dataset/training_set/I/881.png
inflating: Dataset/training_set/I/882.png
inflating: Dataset/training_set/I/883.png
inflating: Dataset/training_set/I/884.png
inflating: Dataset/training_set/I/885.png
extracting: Dataset/training_set/I/886.png
extracting: Dataset/training_set/I/887.png
inflating: Dataset/training_set/I/888.png
inflating: Dataset/training_set/I/889.png
inflating: Dataset/training_set/I/89.png
inflating: Dataset/training_set/I/890.png
inflating: Dataset/training_set/I/891.png
inflating: Dataset/training_set/I/892.png
inflating: Dataset/training_set/I/893.png
inflating: Dataset/training_set/I/894.png
inflating: Dataset/training_set/I/895.png
inflating: Dataset/training_set/I/896.png
inflating: Dataset/training_set/I/897.png
inflating: Dataset/training_set/I/898.png
inflating: Dataset/training_set/I/899.png
inflating: Dataset/training_set/I/9.png
inflating: Dataset/training_set/I/90.png
inflating: Dataset/training_set/I/900.png
inflating: Dataset/training_set/I/901.png
inflating: Dataset/training_set/I/902.png
inflating: Dataset/training_set/I/903.png
inflating: Dataset/training_set/I/904.png
extracting: Dataset/training_set/I/905.png
inflating: Dataset/training_set/I/906.png
inflating: Dataset/training_set/I/907.png
inflating: Dataset/training_set/I/908.png
inflating: Dataset/training_set/I/909.png
inflating: Dataset/training_set/I/91.png
inflating: Dataset/training_set/I/910.png
extracting: Dataset/training_set/I/911.png
extracting: Dataset/training_set/I/912.png
inflating: Dataset/training_set/I/913.png
inflating: Dataset/training_set/I/914.png
extracting: Dataset/training_set/I/915.png
inflating: Dataset/training_set/I/916.png
inflating: Dataset/training_set/I/917.png
inflating: Dataset/training_set/I/918.png
inflating: Dataset/training_set/I/919.png
inflating: Dataset/training_set/I/92.png
inflating: Dataset/training_set/I/920.png
inflating: Dataset/training_set/I/921.png
inflating: Dataset/training_set/I/922.png
inflating: Dataset/training_set/I/923.png
inflating: Dataset/training_set/I/924.png
inflating: Dataset/training_set/I/925.png

[illegible]

```
inflating: Dataset/training_set/I/978.png
inflating: Dataset/training_set/I/979.png
inflating: Dataset/training_set/I/98.png
inflating: Dataset/training_set/I/980.png
inflating: Dataset/training_set/I/981.png
inflating: Dataset/training_set/I/982.png
extracting: Dataset/training_set/I/983.png
inflating: Dataset/training_set/I/984.png
inflating: Dataset/training_set/I/985.png
inflating: Dataset/training_set/I/986.png
inflating: Dataset/training_set/I/987.png
inflating: Dataset/training_set/I/988.png
inflating: Dataset/training_set/I/989.png
inflating: Dataset/training_set/I/99.png
inflating: Dataset/training_set/I/990.png
inflating: Dataset/training_set/I/991.png
inflating: Dataset/training_set/I/992.png
extracting: Dataset/training_set/I/993.png
inflating: Dataset/training_set/I/994.png
inflating: Dataset/training_set/I/995.png
extracting: Dataset/training_set/I/996.png
inflating: Dataset/training_set/I/997.png
inflating: Dataset/training_set/I/998.png
inflating: Dataset/training_set/I/999.png
```

Applying ImageDataGenerator to training set

In [8]:

```
x_train=train_datagen.flow_from_directory('/content/Dataset/training_set',target_size=(64,64),batch_size=200,
```

```
class_mode='categorical',color_mode="grayscale")
```

Found 15750 images belonging to 9 classes.

Applying ImageDataGenerator to test set

In [9]:

```
x_test=test_datagen.flow_from_directory('/content/Dataset/test_set',target_size=(64,64),batch_size=200,
```

```
class_mode='categorical',color_mode="grayscale")
```

Found 2250 images belonging to 9 classes.

In [10]:

```
a=len(x_train)
```

```
b=len(x_test)
```

Length of training set

In [11]:

```
print(a)
```

79

Length of test set

In [12]:

```
print(b)
```

12

Add Layers

In [15]:

```
#create model  
model=Sequential()
```

Add The Convolution Layer

In [16]:

```
model.add(Convolution2D(32, (3, 3), input_shape=(64, 64, 1), activation='relu'))
```

Add Pooling Layer

In [17]:

```
model.add(MaxPooling2D(pool_size=(2, 2)))
```

Add The Flatten Layer

In [18]:

```
model.add(Flatten())
```

Adding The Dense Layers

In [19]:

```
#1st hidden layer  
model.add(Dense(units=512, activation='relu'))  
#2nd hidden layer  
model.add(Dense(units=261, activation='relu'))
```

In [20]:

```
#output layer  
model.add(Dense(units=9, activation='softmax'))
```

Compile The Model

In [22]:

```
model.compile(loss='categorical_crossentropy', optimizer='adam', metrics=['accuracy'])
```