#basic libraries

import numpy as np

import pandas as pd

import matplotlib.pyplot as plt

import os

# data import

cell\_df = pd.read\_csv('/content/drive/MyDrive/DATA ANAS TEST 100داتا الاصل لكل الحروف.csv')

cell\_df1 = pd.read\_csv('/content/drive/MyDrive/الداتا من قياسنا تعديل 5(تم الاسترداد تلقائياً).CSV')

# # data file size shape , type and content

cell\_df1.shape

cell\_df1.size

cell\_df1.head()

cell\_df.count()

cell\_df1.dtypes

cell\_df1.columns

# # the algorithm

## # classification of the parameters

feature\_df= cell\_df[['thumbFlex', 'indexFlex', 'middleFlex', 'ringFlex', 'littleFlex']]

x1 = np.asarray(feature\_df)

cell\_df1.columns

feature\_df1= cell\_df1[['thumbFlex', 'indexFlex', 'middleFlex', 'ringFlex', 'littleFlex']]

x2 = np.asarray(feature\_df1)

y1= np.asarray(cell\_df['letter']

y2= np.asarray(cell\_df1['letter'])

# train and test of the algorithm

from scipy.sparse.construct import random

from sklearn.model\_selection import train\_test\_split

from keras.utils import to\_categorical

print("--- X ---")

X\_train = x1

print("--- testX ---")

testX = x2

X\_train.shape

print("--- Y ---")

y\_train = y1

y\_train.shape

X\_train.shape

testX.shape

print("--- testy ---")

testy = y2

from scipy.sparse.construct import random

from sklearn.model\_selection import train\_test\_split

from sklearn import svm

svm.SVC

classifier = svm.SVC(kernel='linear',gamma='auto',C=10)

classifier.fit(X\_train,y\_train)

y1\_predict = classifier.predict(testX)

## # the output

from sklearn.metrics import classification\_report

print (classification\_report(testy ,y1\_predict))

print(y1\_predict [60])

# # convert of gesture into sound

print(y1\_predict [135])

!pip install gTTS

from gtts import gTTS

from IPython.display import Audio

tts = gTTS(y1\_predict [135])

tts.save('4.wav')

sound\_file = '4.wav'

Audio(sound\_file, autoplay=True)