import librosa

import numpy as np

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

from sklearn.ensemble import RandomForestClassifier

from sklearn.metrics import accuracy\_score

def extract\_features(file\_path):

    audio\_data, sample\_rate = librosa.load(file\_path)

    mfccs = librosa.feature.mfcc(y=audio\_data, sr=sample\_rate, n\_mfcc=13)

    return np.mean(mfccs.T, axis=0)

audio\_files = [ "/content/helicopter-26452.mp3","/content/driving-ambience-6994.mp3"]

labels = ["helicopter", "ambulance"]

X = np.array([extract\_features(file) for file in audio\_files])

y = np.array(labels)

X\_train, X\_test, y\_train, y\_test = train\_test\_split(X, y, test\_size=0.2, random\_state=42)

clf = RandomForestClassifier(n\_estimators=100, random\_state=42)

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

y\_pred = clf.predict(X\_test)

accuracy = accuracy\_score(y\_test, y\_pred)

print("Accuracy:", accuracy)

new\_sample = "/content/helicopter-26452.mp3"

new\_features = extract\_features(new\_sample)

predicted\_label = clf.predict([new\_features])[0]

print("Predicted label for", new\_sample, ":", predicted\_label)