Title : Music Genre Prediction

Description:

Predicting multiclass genres , by various models and comparing accuracies.

- Input features such as
  - Acousticness, Danceability and more
- Output Genres such as
  - Rock , Pop, Electronic et al

Files Required to run :

Files required to upload for initial dataset creation are :

- raw_echonest.csv - contains features
- tracks.csv - Contains genre label , with track id
- Merge_Genre.csv - Cleaned file

As shown below change the url location as per the path of these files in your local system.
(If the file is opened in Google Colab, upload the files, and the code can directly be used.)

```
#Loading raw_echonest , change url as required

#Current path is from files in Google Colab
df= pd.read_csv("/content/raw_echonest.csv")
df2= pd.read_csv("/content/tracks.csv")
```

```
/usr/local/lib/python3.7/dist-packages/IPython/core/interactiveshell.py:2718: DtypeWarning: Columns (0,1,2,3,4,5
  interactivity=interactivity, compiler=compiler, result=result)
/usr/local/lib/python3.7/dist-packages/IPython/core/interactiveshell.py:2718: DtypeWarning: Columns (0,1,5,6,8,1
  interactivity=interactivity, compiler=compiler, result=result)
```

```
import pandas as pd
import numpy as np
import sklearn
import seaborn as sns; sns.set()
import matplotlib.pyplot as plt
%matplotlib inline
```

```
df = pd.read_csv("Merge_Genre.csv")
df
```

Merge_Genre can be created at run time by uncommenting the following line :

```
#Converting to csv file
#File is uploaded to Colab
#df3.to_csv("Merge_Genre.csv",  encoding='utf-8')
```

This path should be changed as required.

Modules Required :

Modules required to print the decision tree

- Graphviz-python
- Pydot

Install through the following steps for conda :

- `conda install graphviz-python`
- `conda install pydot`

```
#conda install graphviz-python
#conda install pydot

from sklearn.tree import export_graphviz
import graphviz
from graphviz import Source
from IPython.display import display

dot_data = export_graphviz(clf, out_file=None, filled =True)
```

This allows us to generate an image for the decision tree.

Output Expected :

EDA Analysis graphs, Models and their accuracies, comparison plot of the accuracies.