Predicting Song popularity on Spotify

# Milestone: Data Exploration and Visualization

**Group** **24**

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Percentage of efforts contributed by Student 1: 50%

Percentage of efforts contributed by Student 2: 50%

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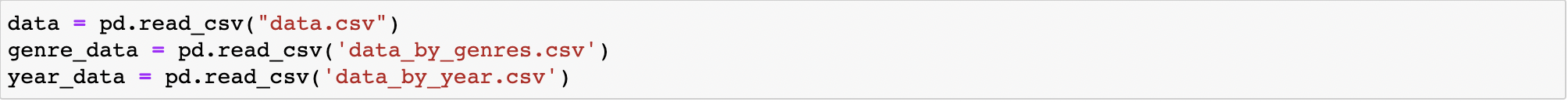
**Data Exploration and Visualization**

**Loading necessary libraries**

Graphical user interface, text

Description automatically generated

**Reading Data**

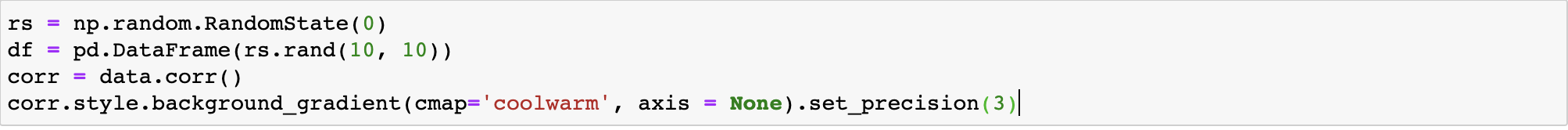


**Correlation between the features**

We can see strong correlation between Popularity & Year which makes sense, because a popularity of a song is highly dependent on when it's released and how long ago it was released

Loudness & energy - high correlation between these two variables is seen because its common to perceive loud songs as being acoustic

Acousticness & energy - similar arguments can be made about these two variables as well



A screenshot of a computer

Description automatically generated with medium confidence

**Music Over Time**

Using the data grouped by year, we can understand how the overall sound of music has changed from 1921 to 2020

From this bar graph we can see that music industry has started evolving since 1950's and it could be attributed to the invention of tape recorder which happened at the end of 1940's

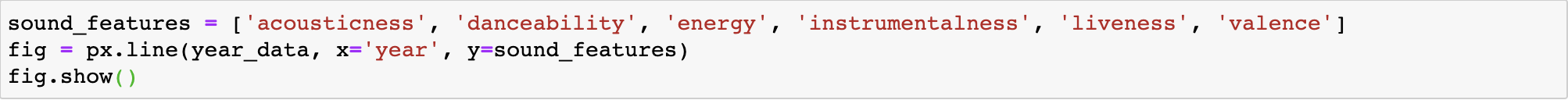
Graphical user interface, application

Description automatically generated

Wrote a function to calculate decade column to group years to show bar graph

Chart, bar chart

Description automatically generated



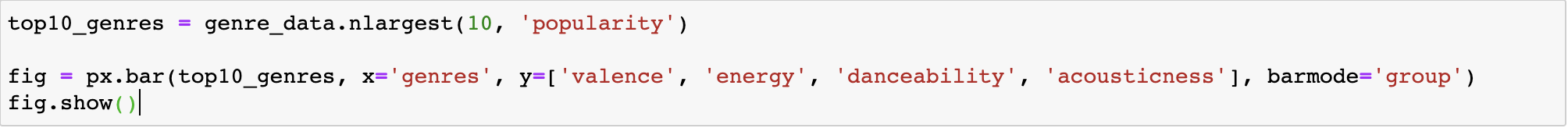
Chart, histogram

Description automatically generated

From the line graph we can see the trendline increasing for danceability and energy of the songs

And we can observe a sharp decline of trendline for acousticness and intrumentalness

This indicates there is a growing number of ‘catchy’ songs with less focus on instrumentals and acousticness of the song



Chart, bar chart

Description automatically generated

Grouped bar chart for top ten genres and its features

This concludes our exploratory data analysis and by using the visualizations we get an idea of different factors which make a song popular at a given time.