COMPANY: CODTECH IT SOLUTIONS

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INTERN ID: CT08WR03

DOMAIN: SOFTWARE DEVELOPMENT

DURATION: 8 WEEKS

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Project Title: Song Popularity Prediction - Project Report

Project Overview:

Song Popularity Prediction is a machine learning project that analyzes features of songs to predict their popularity. The model uses various audio characteristics like danceability, tempo, acousticness, energy, and more, extracted from a dataset of songs.

Objectives:

- Understand patterns and trends in musical data
- Build a predictive model that classifies songs as popular or not based on audio features
- Optimize performance for better accuracy and efficiency

Technologies Used:

- Python
- Pandas, NumPy, Matplotlib, Seaborn (Data Analysis & Visualization)
- Scikit-learn (Machine Learning)
- Jupyter Notebook / VS Code

Features:

- Data cleaning and preprocessing

- Feature selection and correlation analysis
- Classification using Logistic Regression (can be extended to SVM, Random Forest, etc.)
- Model evaluation using accuracy, confusion matrix, and classification report

Outcome:

Successfully trained a machine learning model to predict the popularity of songs with good accuracy. This project demonstrates practical implementation of classification techniques, feature engineering, and real-world data analysis.

Repository Link:

https://github.com/Jashu2703/song-popularity-prediction