

Name
Artist
Duration
Genre
Next Song
ID_in_playlist

b) Playlist:

Name

First Song

Last Song

Number of songs

Total Duration

Exercise 2: Implement the following functions

Song_New: function which creates new song.

Song_Print: function which prints the name, artist, duration, genre and ID_in_playlist of a song.

Note: you can add your own functions or sub-functions if you need them to implement a task.

Playlist_New: function which creates new empty playlist with name.

Playlist_Add: function which takes a song and add it to the playlist.

Playlist_Add_After: function which takes a song and add it after some song.

Playlist_Delete_byName: function which takes a name of song, and delete it from playlist.

Playlist_Delete_byID: function which takes an ID of song, and delete it from playlist.

Playlist_Find_byName: function which takes a name of song, and print its artist, duration, genre and ID_in_playlist.

Playlist_Find_byID: function which takes an ID of song, and print its name, artist, duration and genre.

Playlist_Sort_byName: function which sorts a playlist in the alphabetical order (by first letter only).

Playlist_Sort_byID: function which sorts a playlist in the ascending or descending order.

Playlist_Print: function that prints the whole playlist.

Exercise 3: Save the playlist in the file

Playlist_To_File: function that take the playlist, and save its songs with corresponding ID, Name, Artist, Duration, Genre in the file.

Exercise 4: Plot the statistics

Playlist_Statistics: function which plot the number of songs for each genre.

1. Define a enum for genres.
2. Count how many songs in each genre
3. Plot the graph with:
 - X: genre (Ex: 1 = pop, 2 = rock, and etc)
 - Y: number of songs

Exercise 5: Main function

Fill the main function so that there are 2 playlists:

1. Playlist created by user: when running a program it should interact with user and ask him to create a playlist with his favorite songs, getting all the necessary information (Song name, artist, duration and etc) from user.
2. Playlist created by yourself: create a playlist, name it, add some songs.

Exercise 6: Makefile

Write a makefile with necessary target and dependencies to compile the program.