Developer documentation

“Songs”

‘Song’ - structure data type is defined to track the record of a song by combining data items of different kinds.

‘*dataString’, ‘*title’, ‘*artist’, ‘*album’, ‘*genre’ – are all just a pointers and stores address of string literal.

"Add()" function is to of void so it does not return anything it is needed to add a song to database

it defines array of char size of 21 and 2 variables type of integers for corresponding details of the song.

FILE *fpointer=(songs-database.txt, "a") to access database and fopen function in append mode

printf() and scanf() functions follow to let user know what info of a song to type and scan inputed info and store them in previously declared arrays of strings

After having necessary details of the song we are going to fprintf() them in a database with additional text for easy readability

fclose() to closes the File

"*Read()" function is type of the Song structure to read details of the songs in database and we need to make a linked list for all songs in database to get info by going through each of them

FILE *fpointer=fopen(songs-database.txt, "r") open file in read mode

'line' is array of characters to store the whole details of the song

while loop iterates through entire database until the end of file is reached, and stores each line in previously defined line array of characters

Song *u is a pointer to Song struct and the memory sizeof Song is allocated

u->dataString - we use pointer to make a duplicate of the array of characters that contains all the details of the song as in database sscanf() we need to scan that string stored in line array of characters to get only the necessary details and pointing them to appropriate pointer to do that

we need to use strdup() since it returns a pointer to the duplicated string

u->next and lis = u to make a linked list

fclose() close file

and return lis because we will use this function in all of the following functions to read data and that is why we declared this function of type of Song construct

artist() function of type of void since it returns nothing. Takes no parameters. Prints the title of the song of the user-entered artist

defining head pointer type of Song to assign to it the Read() function for getting into linked list

scanning and storing the user-entered year in artist array of characters

while loop loops until the head is not holding details of the song

and it is going to print the title of the song if head->artist is the same as the user entered artist

head is equal to head->next since we need to loop through every song

year() function of type of void since it returns nothing. Takes no parameters. Prints the year of user-entered song's release

defining head pointer type of Song to assign to it the Read() function for getting into linked list

scanning and storing the user-entered year in year integer

while loop loops until the head is not holding details of the song

and it is going to print the title of the song if head->year is the same as the user entered year

head is equal to head->next since we need to loop through every song

genre() function of type of void since it returns nothing. Takes no parameters. Prints the genre of the song of the user-entered genre

defining head pointer type of Song to assign to it the Read() function for getting into linked list scanning and storing the user-entered genre in genre array of characters

while loop loops until the head is not holding details of the song

and it is going to print the title, artist, album and year of the song if head->genre is the same as the user entered genre

head is equal to head->next since we need to loop through every song

album() function of type of void since it returns nothing. Takes no parameters. Prints all songs and all details from the user-entered album

defining head pointer type of Song to assign to it the Read() function for getting into linked list

scanning and storing the user-entered album in album array of characters

while loop loops until the head is not holding details of the song

and it is going to print the details of the song if head->album is the same as the user entered album

head is equal to head->next since we need to loop through every song

in main function there is a mini user interface with switch statements that are calling appropriate functions based on user-entered number in range 1-5