Assignment 3 Final

**Person Table**

The first table I created in my Spotify ERD database is the person table. The primary key is the Username because each person has its own username and its unique to other accounts so that there aren’t any duplicate names. Other attributes include Fname, Lname, Email, password, and a foreign key of Playlist\_Num that is connecting to Playlist table. This relationship is a 1:M relationship because a person can create multiple playlists in their account, but each playlist has one creator, the person.

**Playlist Table**

The next table created is the Playlist table. The playlist table has Playlist\_Num as its primary key. The only key that is not being referenced is Playlist\_Title because each title can be named whatever the person creating the playlist wants to name the playlist. The foreign keys include Song\_Id, Artist\_ID, and Topic\_ID. Artist\_ID is being referenced to a joint table Song Album, and Song\_ID is referred to the joint table Playlist\_Songs. Topic\_ID is being referenced to the Music Topic table. Each playlist can only have one Music Topic, while a Music topic can have multiple playlists created, thus making the relationship 1:M. For Playlist to Song Album, A song album can be either be in multiple playlists or none, but each playlist can only have one song Album. Playlist\_Songs is the same scenario. Each Playlist song can be in multiple or no playlist, but only one Playlist\_Song can be in the playlist.

**Music Topic**

Music Topic table only consists of 2 attributes ad it is showing entity integrity because there are no attributes that are being referred to other tables. The primary key is Topic\_ID and the other attribute is Music\_Topic\_Name. As stated in Playlist table, Music Topic is establishing a 1:M relationship with Playlist because a music topic can have many playlists to listen to, but a playlist can be only designed to one music topic.

**Artist Table**

Artist table will be known for all the artists out there in the world today. It has Artist\_ID as the primary key, Artist\_name, Album\_ID as a foreign key, and Song\_ID as a foreign key. Album\_ID is referencing Album table and Song\_ID is referencing Songs table. Each artist can have multiple albums release on Spotify, but each album, excluding featured artists, has one artist that produced the album. Therefore, the relationship between Artist and Album is a 1:M relationship. For Songs to Artist, each artist can produce many songs, regardless of album cover, but each song, excluding featured artists, is created by one artist.

**Album Table**

Album table is all the albums created by each artist that is available in Spotify. The primary key is Album\_ID and the foreign keys are Artist\_ID and Song\_ID. Other attributes include Num\_of\_Songs, and Release\_Year. Artist to Album, as discussed in Artist Table, is 1:M because each artist can have multiple albums released, but each album, excluding featured artists, has one artist producing the album. Album has another relationship with Song Album so that there is not a M:M relationship between Songs and Albums. There can be many songs in an album, but each song can only be apart of one album, thus making the Song Album to Album a 1:M relationship.

**Song Album**

Song Album is a joint table for Songs and Albums so that there is not a many to many relationship between the two. There are 2 composite keys because both keys are primary keys and are being referenced to other tables. The two keys are Song\_ID and Album\_ID. Both relationships, Song to Song Album and Album to Song Album, are 1:M relationships. Each song can only be apart of one song album, but a song album can have one or many songs. There can only be one song album in an album, but there can be many songs from song album in an album.

**Songs**

Songs table represents all the songs out there on Spotify. The primary key is Song\_ID and has 3 different foreign keys: Artist\_ID, Genre\_ID, and Playlist\_Num. The other attribute in Songs table is not relating to other tables is Song\_name. As previously stated in Song Album there is a 1:M relationship with Song Album because there can only be one song album in an album, but there can be many songs from song album in an album. Also as stated in the Artist table, Song to Artist has a 1:M relationship because each artist can produce many songs, regardless of album cover, but each song, excluding featured artists, is created by one artist. There is also a 1:M relationship with Songs and Song Genre because song has to be classified as a music genre, hip hop, country, etc, but each song genre can have multiple songs listed. Finally, each song can be in a playlist but that can cause a M:M relationship due to multiple songs in multiple playlists, so another joint table is being used. Songs to Playlist Songs has a 1:M relationship because a playlist song can be multiple songs but each song can only be one playlist song.

**Playlists\_Songs**

Playlist\_Songs is the 2nd joint table that is presented in this ERD. Joint table is created to prevent a M:M relationship with Songs and Playlist tables. That could be a M:M relationship because a single song can be apart of multiple playlists and a playlist can have multiple songs. There are 2 composite keys: Song\_ID and Playlist\_Num. To the prevent the M:M relationship there is a 1:M relationship with Playlist\_Songs to Playlist and 1:M relationship for Playlist\_Songs to Songs. As stated in Songs table, a playlist song can be multiple songs, but each song can only be one playlist song. As or Playlist to Playlist\_Songs, as stated in the Playlist, each Playlist song can be in multiple or no playlist, but only one Playlist\_Song can be in the playlist.

**Song genre**

Song Genre has a primary key and the rest are foreign keys. The primary key is Genre\_ID and the foreign keys are Song\_ID, Album\_ID, and Artist\_ID. Even though there is only one relationship going on in the table, Album\_ID and Artist\_ID are being referenced because both attributes are in the songs table and are connected to their originated tables. The relationship for song genre and songs is a 1:M relationship because, as stated in the song table, each song is only classified as one song genre, but a song genre can have multiple songs.

Diagram

Description automatically generated