Assignment 3

These questions are regarding the Chinook database that should be attached in the accompanying repository. The questions are in blue.

1. Get the total cost of the invoices by clients who work for Google, or Apple:  
   SELECT sum("Total") AS Total\_Invoices, Company FROM Invoice JOIN Customer ON Invoice.CustomerId = Customer.CustomerId

WHERE (Company LIKE "Google%") OR (Company LIKE "Apple%") GROUP BY Company;

1. Get the maximum cost of an invoice by anyone in Canada with a Hotmail or Gmail address:  
   SELECT max("Total") AS Max\_order\_in\_CAN\_by\_gmail\_or\_hotmail FROM Invoice WHERE CustomerId IN

(SELECT CustomerId FROM Customer WHERE Country = "Canada" AND

((Email LIKE "%gmail%") OR (Email LIKE "%hotmail%")));

1. Get the file size (in GB) of the Audiobooks playlist:  
   SELECT (sum(Bytes)/ 1000000000) AS Audiobooks\_playlist\_size FROM Track WHERE TrackId IN

(SELECT TrackId FROM PlaylistTrack WHERE PlaylistId IN

(SELECT PlaylistId FROM Playlist WHERE Name = "Audiobooks"));

1. Get the tracks purchased by Fernanda Ramos:  
   SELECT Name FROM Track WHERE TrackId IN (SELECT TrackId FROM InvoiceLine WHERE InvoiceId IN (SELECT InvoiceId FROM Invoice WHERE CustomerId IN (SELECT CustomerId FROM Customer WHERE (FirstName = "Fernanda") AND (LastName = "Ramos"))));
2. Show the top 3 genres with respect to total number of tracks:  
   SELECT count(TrackId) AS Number\_of\_Tracks, Genre.Name FROM Track JOIN Genre ON Track.GenreId = Genre.GenreId GROUP BY Track.GenreId LIMIT 3;
3. Create a view that shows the albums related to Battlestar Galactica with their track information:  
   CREATE VIEW Battlestar\_Galactica\_Tracks\_and\_Albums AS

SELECT \* FROM Track JOIN Album ON Track.AlbumId = Album.AlbumId JOIN Artist ON Album.ArtistId = Artist.ArtistId

WHERE Artist.Name = "Battlestar Galactica";

1. Create a view that shows all the tracks with album names from bands that start with “The” and are in the Rock genre:  
   CREATE VIEW Particular\_Artist\_And\_Genre AS

SELECT \* FROM Track JOIN Album ON Track.AlbumId = Album.AlbumId

JOIN Artist ON Album.ArtistId = Album.ArtistId

JOIN Genre ON Genre.GenreId = Track.GenreId WHERE

(Artist.Name LIKE "The%") AND Track.GenreId IN (SELECT GenreId FROM Genre WHERE Name = "Rock");

1. Get all of the Soundtrack and Comedy track names that do not start with D:  
   SELECT Name FROM Track WHERE GenreId IN (SELECT GenreId FROM Genre WHERE (Genre.Name = "Soundtrack") OR (Genre.Name = "Comedy")) AND (NOT (Name LIKE "D%"));
2. Find out which genre is most common in all of the playlists:  
   -- I assume that you are looking for the genre that pops up the most in the Track database

SELECT count(Track.GenreId) AS Frequency, Genre.Name AS Most\_Common\_GENRE  
FROM Track JOIN Genre ON Track.GenreId = Genre.GenreId

JOIN PlaylistTrack ON PlaylistTrack.TrackId = Track.TrackId

JOIN Playlist ON Playlist.PlaylistId = PlaylistTrack.PlaylistId   
GROUP BY Track.GenreId ORDER BY Frequency DESC LIMIT 1;

1. Determine which playlists contain tracks by the Red Hot Chili Peppers:  
   SELECT Distinct Playlist.Name AS Playlists\_of\_Red\_Hot\_Chili\_Peppers FROM Track

JOIN PlaylistTrack ON PlaylistTrack.TrackId = Track.TrackId

JOIN Playlist ON Playlist.PlaylistId = PlaylistTrack.PlaylistId WHERE Composer = "Red Hot Chili Peppers";

1. Get the number of albums which have tracks where the composer is currently listed as NULL:  
   SELECT count(AlbumId) AS Albums\_With\_Null\_Composers FROM

(SELECT DISTINCT AlbumId FROM (SELECT \* FROM Track WHERE (NOT TrackId IN (SELECT TrackId FROM Track WHERE NOT Composer = "NULL"))));

1. Get the names of the artists with at least 2 albums but no more than 3:  
   SELECT Name FROM

(SELECT Album.ArtistId, count(Album.ArtistId) AS ArtistCount, Artist.Name FROM Album JOIN Artist ON Album.ArtistId = Artist.ArtistId

GROUP BY Album.ArtistId HAVING ArtistCount = 2 OR ArtistCount = 3);

1. Get the length (in minutes) of each of the Playlists:  
   SELECT Playlist.Name AS Playlist\_Name, (sum(Track.Milliseconds) / (1000 \* 60)) AS Minutes FROM Track JOIN PlaylistTrack ON PlaylistTrack.TrackId = Track.TrackId

JOIN Playlist ON PlaylistTrack.PlaylistId = Playlist.PlaylistId

GROUP BY Playlist.Name;

1. Get the average size in terabytes of the tracks sold by Chinook Records:  
   SELECT (avg(Bytes) / 1000000000000) AS Avg\_size\_in\_terabytes FROM Track;
2. List, in ascending order, the 3 most popular Genres that are part of invoices from Berlin:  
   SELECT count(GenreId) AS Frequency, Name AS Genre\_type FROM

(SELECT Track.GenreId, Genre.Name FROM Track JOIN Genre ON Track.GenreId = Genre.GenreId WHERE TrackId IN

(SELECT TrackId FROM InvoiceLine WHERE InvoiceId IN (SELECT InvoiceId FROM Invoice WHERE BillingCity = "Berlin")))

GROUP BY Name ORDER BY Frequency DESC LIMIT 3;

1. (2.5 each) Create 4 useful views that might work well on a website given the data available in the Chinook database. Justify the use of your views with a brief written explanation, say no more than two sentences:
2. CREATE VIEW Top\_10\_Genres AS SELECT sum(InvoiceLine.UnitPrice) AS Total\_Sales\_Revenue, Genre.Name AS Genre FROM Track JOIN InvoiceLine ON InvoiceLine.TrackId = Track.TrackId JOIN Genre ON Genre.GenreId = Track.GenreId

GROUP BY Genre.Name ORDER BY Total\_Sales\_Revenue DESC LIMIT 10;  
Top 10 lists seem to be popular on lots of website articles, so I figure that a top 10 list of genres could be interesting for some website out there.

1. CREATE VIEW Top\_10\_Music\_Countries AS

SELECT sum("Total") AS Total\_Sales, BillingCountry FROM Invoice

GROUP BY BillingCountry ORDER BY Total\_Sales DESC LIMIT 10;

Seeing as top 10 lists are popular, we’ll continue with it and now go the countries that listen to the most music.

1. CREATE VIEW Top\_10\_genres\_in\_Canada AS

SELECT sum("Total") AS Total\_sales, Genre.Name FROM Track JOIN InvoiceLine ON InvoiceLine.TrackId = Track.TrackId JOIN Invoice ON Invoice.InvoiceId = InvoiceLine.InvoiceId JOIN Genre ON Track.GenreId = Genre.GenreId WHERE BillingCountry = "Canada" GROUP BY Genre.Name ORDER BY Total\_Sales DESC LIMIT 10;

So here we have a list of top 10 genres in Canada by sales, as people love top 10 lists and travellers to Canada may be interested.

1. CREATE VIEW Top\_10\_tracks\_from\_The\_Office AS SELECT sum("Total") AS Total\_sales, Track.Name FROM Track JOIN InvoiceLine ON InvoiceLine.TrackId = Track.TrackId JOIN Invoice ON Invoice.InvoiceId = InvoiceLine.InvoiceId JOIN Album ON Track.AlbumId = Album.AlbumId WHERE Track.AlbumId IN (SELECT Album.AlbumId FROM Album WHERE Album.Title LIKE "The Office%") GROUP BY Track.Name ORDER BY Total\_sales DESC LIMIT 10;

So here we have a list of the top 10 soundtracks from The Office by sales. The show has many fanatics, and in some deep corner of the internet this view might draw interest.