

## Assignment 4 Answer Key

1.

```
SELECT LastName, Email  
FROM customers  
JOIN invoices USING (customerid)  
GROUP BY customers.customerid;
```

2.

```
SELECT Title, Name  
FROM albums JOIN artists USING (artistid);
```

3.

```
SELECT State, Count(*) as State_Count  
FROM (SELECT State  
      FROM customers JOIN invoices USING (customerid)  
      GROUP BY customers.customerid)  
GROUP BY State  
Order BY State;
```

4.

```
SELECT State, Count(*) as State_Count  
FROM customers  
WHERE State IS NOT NULL  
GROUP BY State  
Having State_Count > 10;
```

5.

```
SELECT Name  
FROM albums JOIN artists USING (artistid)  
WHERE Title LIKE '%symphony%'  
GROUP BY artistid;
```

6.

```
SELECT artists.Name as Name
FROM artists
JOIN albums USING (artistid)
JOIN tracks USING (albumid)
JOIN playlist_track USING (trackid)
JOIN media_types USING (mediatypeid)
JOIN playlists ON playlists.playlistid = playlist_track.playlistid
WHERE playlists.Name IN ('Brazilian Music', 'Grunge') AND media_types.name
LIKE '%MPEG%'
GROUP BY artists.Name;
```

7.

```
SELECT COUNT(DISTINCT aname)
FROM(
    SELECT artists.Name AS aname, COUNT(*) as cnt
    FROM artists
    JOIN albums on artists.ArtistId = albums.artistid
    JOIN tracks on albums.AlbumId = tracks.albumid
    JOIN media_types on tracks.mediatypeid = media_types.MediaTypeId
    WHERE media_types.Name LIKE '%MPEG%'
    GROUP by artists.Name
    HAVING cnt >= 10);
```

8.

```
SELECT playlists.PlaylistId, playlists.Name,
    ROUND(SUM(milliseconds)/3600000.00, 2) as length
FROM playlists
JOIN playlist_track on playlists.PlaylistId = playlist_track.PlaylistId
JOIN tracks on playlist_track.trackid = tracks.trackid
GROUP BY playlists.PlaylistId
HAVING length > 2;
```