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Fall – 2017

CSC 370: Database Systems Musicbrainz

Database Schema


ARTIST_NAME
- ID — Integer (PK)
- NAME — TEXT (IX1)
- ANAME (IX1)

GENDER
- ID — Integer (PK)
- NAME — TEXT

ARTIST_TYPE
- ID — Integer (PK)
- NAME — TEXT

R_ARTIST_RELEASE_GROUP
- ENTITY0 — Integer (FK)
- ENTITY1 — Integer (FK)
- POSITION — Integer

RELEASE_GROUP_PRIMARY_TYPE
- ID — Integer (PK)
- NAME — TEXT

ARTIST
- ID — Integer (PK)
- NAME — Integer (FK) (IX1)
- BEGIN_DATE_YEAR — Integer
- BEGIN_DATE_MONTH — Integer
- BEGIN_DATE_DAY — Integer
- END_DATE_YEAR — Integer
- END_DATE_MONTH — Integer
- END_DATE_DAY — Integer
- TYPE — Integer (FK)
- COUNTRY — Integer (FK)
- GENDER — Integer (FK)
- ANAMECODE (IX1)

R_ARTIST_RELEASE
- ENTITY0 — Integer (FK)
- ENTITY1 — Integer (FK)
- POSITION — Integer

RELEASE_NAME
- ID — Integer (PK)
- NAME — TEXT (IX1)
- RNAME (IX1)

RELEASE_GROUP
- ID — Integer (PK)
- NAME — Integer (FK)
- TYPE — Integer (FK)

R_ARTIST_TRACK
- ENTITY0 — Integer (FK)
- ENTITY1 — Integer (FK)

COUNTRY
- ID — Integer (PK)
- ISO_CODE — TEXT
- NAME — TEXT

RELEASE
- ID — Integer (PK)
- NAME — Integer (FK)
- RELEASE_GROUP — Integer (FK)
- STATUS — Integer (FK)
- COUNTRY — Integer (FK)
- LANGUAGE — Integer (FK)
- DATE_YEAR — Integer
- DATE_MONTH — Integer
- DATE_DAY — Integer

LANGUAGE
- ID — Integer (PK)
- ISO_CODE_2T — TEXT
- ISO_CODE_2B — TEXT
- ISO_CODE_1 — TEXT
- NAME — TEXT
- FREQUENCY — Integer
- ISO_CODE_3 — TEXT

TRACK
- ID — Integer (PK)
- TRACKLIST — Integer (FK)
- POSITION — Integer
- NAME — Integer (FK)
- LENGTH — Integer

R_TRACK_RELEASE
- ENTITY0 — Integer (FK)
- ENTITY1 — Integer (FK)

RELEASE_STATUS
- ID — Integer (PK)
- NAME — TEXT

TRACK_NAME
- ID — Integer (PK)
- NAME — TEXT (IX1)
- TNAME (IX1)

TRACKLIST
- ID — Integer (PK)
- TRACK_COUNT — Integer

MEDIUM
- ID — Integer (PK)
- TRACKLIST — Integer (FK)
- RELEASE — Integer (FK)
- POSITION — Integer
- FORMAT — Integer (FK)
- NAME — TEXT

MEDIUM_FORMAT
- ID — Integer (PK)
- NAME — TEXT
- YEAR — Integer
- HAS_DISCIDS — BOOLEAN

Determining the Number of Releases per Country

```sql
    SELECT country.name AS "Country", COUNT(release.name) AS "Releases"
FROM country, release
WHERE country.id = release.country
GROUP BY country.name
ORDER BY "Releases" DESC;
```

Country	Releases
United States	256477
United Kingdom	149674
Germany	93908
Japan	57338
France	42245
[Worldwide]	30920
Netherlands	19431
Australia	16549
Italy	16392
Canada	16376
Sweden	16316
Spain	14074
Finland	12733
Europe	10769
Russian Federation	10159
Brazil	8215
Belgium	8017
Poland	7088
Norway	4983
Denmark	4719
Greece	4174
Austria	4110
Argentina	3857
Switzerland	3737
Czech Republic	3252
Turkey	3149
New Zealand	2927
Estonia	2567
Hungary	2408
Taiwan	2362

Determining the Number of Releases per Country
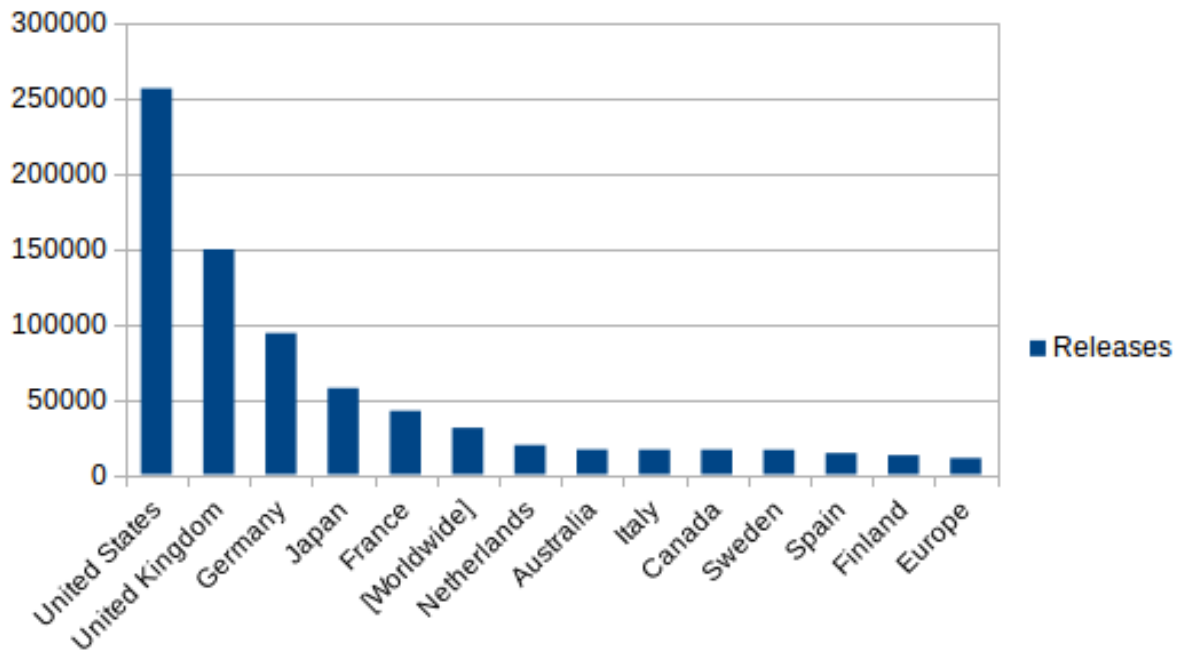
Some conclusions drawn from the above chart:

- The United States produces roughly as much music as the United Kingdom and Germany combined
- Both countries that lead in their number of releases both start with the word "United"

Determining the Average Track Count per Country

```sql
    SELECT country.name AS "Country", AVG(tracklist.track_count) AS "Track Count"
FROM country, tracklist, release, medium
WHERE country.id = release.id AND release.id = medium.id AND medium.tracklist =
tracklist.id
GROUP BY country.name
ORDER BY "Track Count" DESC;
```

New Zealand	38.0
Jordan	27.0
Soviet Union (historical, 1922-1991)	23.0
Mauritania	21.0
Nigeria	21.0
Norway	21.0
Niue	20.0
Georgia	19.0
Ghana	19.0
Madagascar	19.0
Switzerland	19.0
Algeria	18.0
Antarctica	18.0
Liberia	18.0
Mauritius	18.0
Swaziland	18.0
Zimbabwe	18.0
[Worldwide]	18.0
Hong Kong	17.0
Ireland	17.0
Togo	17.0
Yemen	17.0
Cuba	16.0
Honduras	16.0
Morocco	16.0
Palestinian Territory	16.0
Saint Helena, Ascension and Tristan da Cunha	16.0
Slovakia	16.0
South Georgia and the South Sandwich Islands	16.0
Tokelau	16.0

Determining the Average Track Count per Record
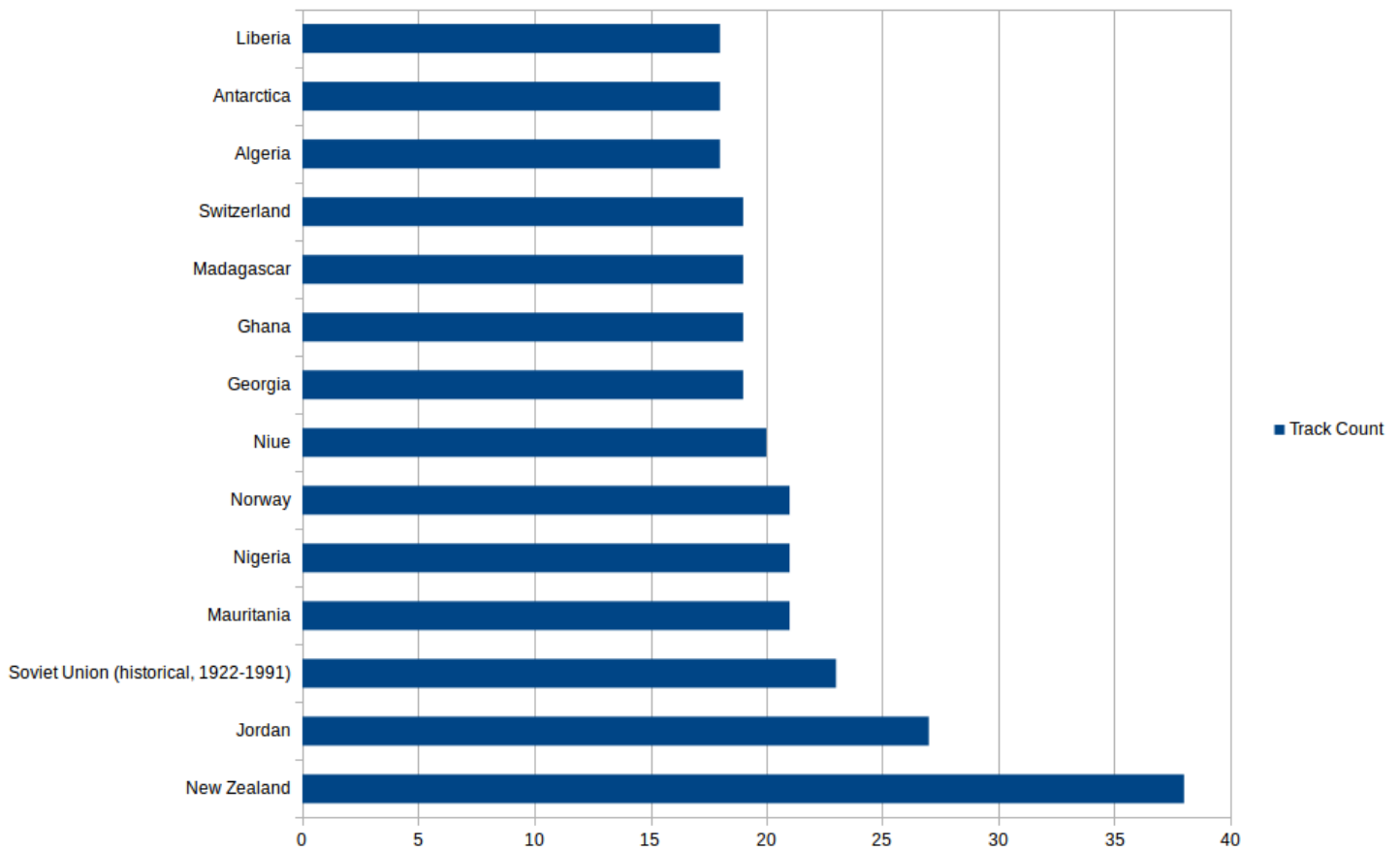
Some conclusions drawn from the above chart:

- Perhaps it is a cultural belief that New Zealanders should include a larger amount of tracks per record.
Or perhaps America and Canada value music twice as much as New Zealanders do.

- The majority of the list is comprised of third-world countries.

Who Wrote the Longest Track?

```sql
SELECT artist_name.name, artist.country, track_name.name, MAX(track.length)
  FROM artist_name, TRACK, track_name, r_artist_track, artist
    WHERE artist_name.id = artist.id AND artist.name = r_artist_track.entity0
    AND r_artist_track.entity1 = track.id AND track.id = track_name.id;
```

Riccardo Perotti   Nouvelles suites de PiÃ¨ces de clavecin : Sarabande   10853000

The Amount of Releases per Media Format

```sql
  SELECT medium_format.name AS "Format", medium_format.year, SUM(MEDIUM.FORMAT) AS
                                  "Count"
FROM medium_format, medium, release, release_name
WHERE RELEASE.ID = MEDIUM.RELEASE AND medium.format = medium_format.id AND
release_name.id = release.name
GROUP BY medium.format
ORDER BY "Count" DESC;
```

Format	year	Count
12" Vinyl		2029136
Digital Media		939084
CD	1982	609873
7" Vinyl		523566
Vinyl	1895	296709
CD-R		115500
Cassette	1964	70920
8cm CD	1982	70550
10" Vinyl		55650
Wax Cylinder	1877	42938
DVD-Video		42598
HDCD		5875
Other		4602
SACD	1999	4002
DVD	1995	3806
Piano Roll	1883	2460
USB Flash Drive		2444
DVD-Audio		2052
VHS		1302
VCD		1232
DualDisc	2004	1060
Blu-ray		780

The Amount of Releases per Media Format
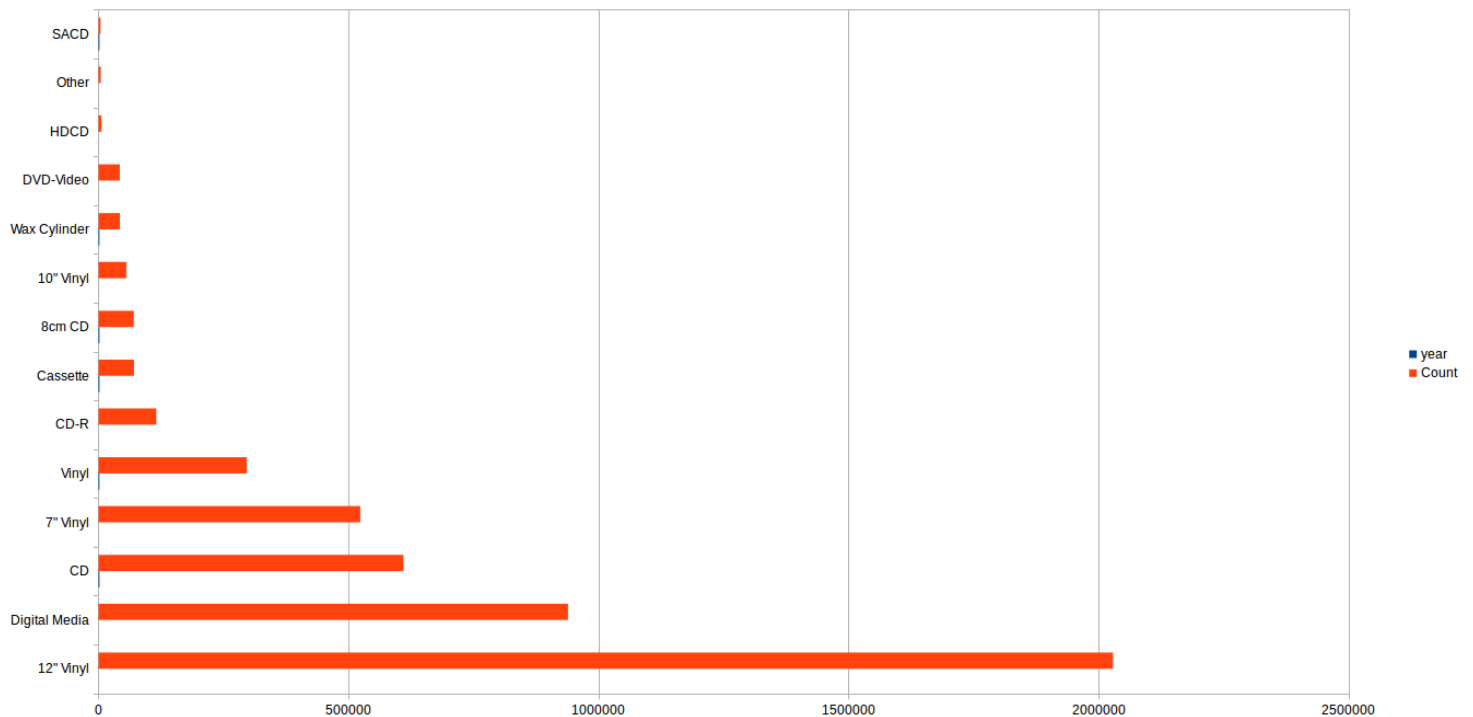
Some conclusions drawn from the above chart:

- Historically, releases have been on Vinyl, much more than any other media format.

- Digital Media needs more than 100,000 releases in order to overtake 12" Vinyl in quantity.

- The majority of media formats were niche products, or did not last long before the next-generation media format was released.

All Releases Including the Word 'The' in the Title

```sql
SELECT artist_name.name AS "Artist", release_name.name AS "Release",
                    release.date_year AS "Year"
FROM r_artist_release, artist, release, release_name, artist_name
WHERE artist_name.id = artist.name AND artist.id = r_artist_release.entity0 AND
r_artist_release.entity1 = release.id AND release.name = release_name.id AND
release_name.name LIKE '%The%';
```

Artist	Release	Year
Love .45	The Seattle Sessions E.P.	
raison d'Ãªtre	Enthraled by the Wind of Lonelienes	1994
raison d'Ãªtre	Reflections From the Time of Opening	1997
raison d'Ãªtre	The Empty Hollow Unfolds	2000
raison d'Ãªtre	Within the Depths of Silence and Phormations	1995
raison d'Ãªtre	Reflections From the Time of Opening	2005
raison d'Ãªtre	The Stains of the Embodied Sacrifice	2009
raison d'Ãªtre	The Luminous Experience (Live in Enschede 2008)	2008
raison d'Ãªtre	When the Earth Dissolves in Ashes (Live 2010/2011)	2012
Rezerwat	The Best of Rezerwat	
Infester	To the Depths, in Degradation	1994
Mhoo	Talking in the Streets	2011
Mississippi Sheiks	Honey Babe Let the Deal Go Down: The Best of Mississippi Sheiks	2004
Mississippi Sheiks	Sitting on Top of the World / Lonely One in This Town	1930
Eberhard Weber	The Following Morning	1976
Eberhard Weber	The Colours of ChloÃ«	
House of Low Culture	Live From the House of Low Temperature!	2004
House of Low Culture	Live From the House of Low Temperature!	2004
Choclair	What It Takes - The Official Remixes (Placebo Recordings)	
Stereobate	Selling Out in the Silent Era	
Flame	The 6th	2012
Flame	The 6th	2012
We Barbarians	In the Doldrums	2008
Blake	Together	2009
Greg Sczebel	Love & the lack thereof	2009

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What is the Shortest Track?

```sql
SELECT track_name.name, MIN(track."length")
FROM track, track_nam
WHERE track.name = track_name.id;
```

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Which Bands Have Composed the Most Tracks?

```sql
SELECT artist_name.name, COUNT(track_name.name) AS "Count"
FROM artist_name, artist, r_artist_track, track, track_name
WHERE artist_name.id = artist.name AND artist.id = r_artist_track.entity0 AND
r_artist_track.entity1 = track.id AND track.name = track_name.id
GROUP BY artist_name.name
ORDER BY Count DESC
LIMIT 100;
```

Johann Sebastian Bach	66924
[unknown]	62401
Wolfgang Amadeus Mozart	45717
Ludwig van Beethoven	34548
Georg Friedrich HÃ¤ndel	22576
Antonio Vivaldi	19918
J.K. Rowling	17649
U2	17441
Fryderyk Chopin	17125
Elvis Presley	15849
Joseph Haydn	14667
Grateful Dead	14279
The Beatles	14220
Johannes Brahms	14200
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Which Releases Had the Most Tracks?

```sql
                  SELECT release_name.name, track_count
FROM release_name, release, medium, tracklist
WHERE release_name.id = release.name AND medium.release = release.id AND
medium.tracklist = tracklist.id
ORDER BY track_count DESC
LIMIT 30;
```

|	
Sony Sound Series: Loops & Samples: On the Jazz Tip	1008
Sonic Logos, Links and Beds 2	728
Sony Sound Series: Loops & Samples: Bass X	686
Fanfares	685
Ð—Ð°Ð±Ð»Ñ'Ð²Ð°Ð½Ð½Ñ‹Ð¹ Ñ„ÑƒÐ¶ÐµÑ€ Ñ? Ð³Ð¾Ð²Ð½Ð¾Ð¼	666
Comedy / Cartoon	644
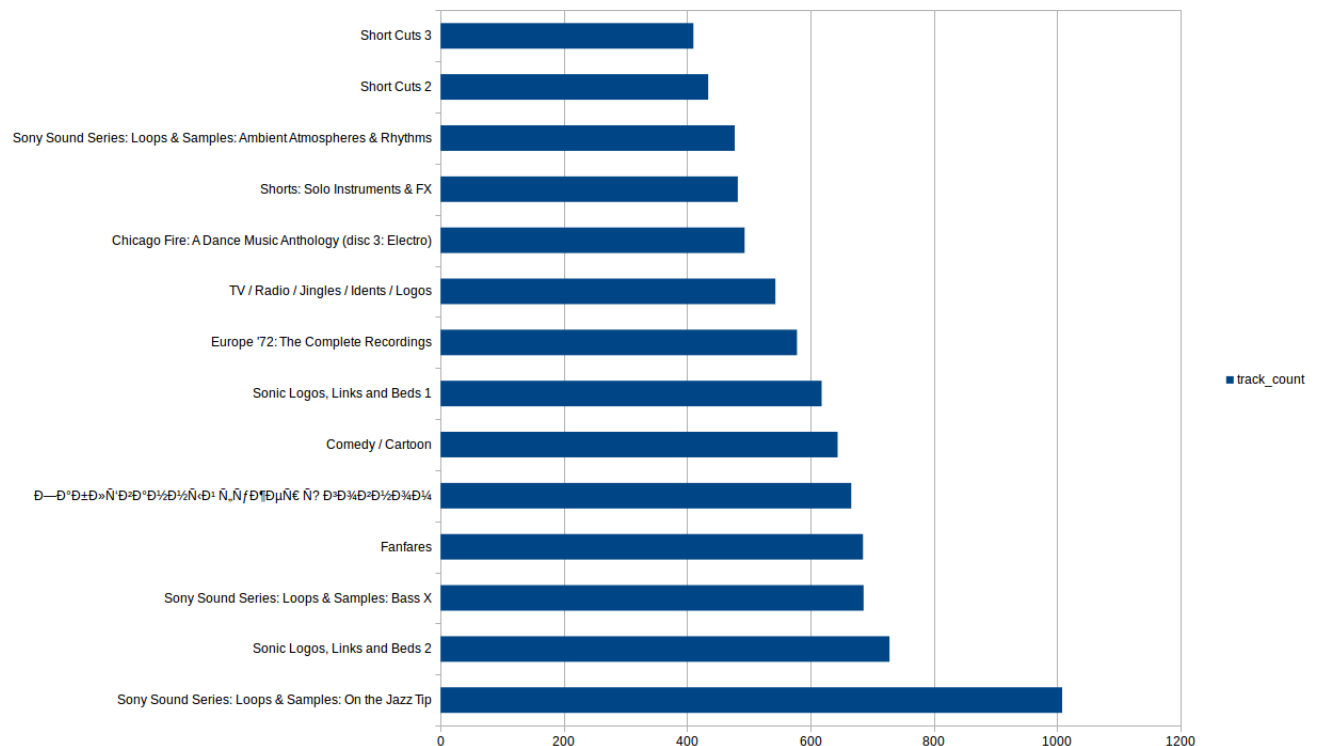
How Many Solo/Group Artists Exist per Country

```sql
                              SELECT t1."c1", "Person", "Group"
FROM
        (SELECT country.name AS "c1", COUNT(artist_type.name) AS "Person"
        FROM artist_type, artist, country
        WHERE artist_type.id = artist.type AND artist.country = country.id AND
artist_type.name = 'Person'
        GROUP BY country.name) t1
JOIN
        (SELECT country.name AS "c2", COUNT(artist_type.name) AS "Group"
        FROM artist_type, artist, country
        WHERE artist_type.id = artist.type AND artist.country = country.id AND
artist_type.name = 'Group'
        GROUP BY country.name) t2
ON t2."c2" = t1."c1"
GROUP BY t1."c1"
ORDER BY "Person" DESC, "Group" DESC;
```

Country	Person	Group
United States	27265	16101
United Kingdom	12398	9772
Japan	7144	2318
Germany	6617	5168
France	5785	3765
Estonia	4133	1208
Spain	4058	1850
Italy	3594	2952
Finland	3550	2268
Greece	3038	605
Canada	2705	1973
Latvia	2570	489
Sweden	2108	2359
Netherlands	1977	1636
Australia	1581	1720
Turkey	1412	202
Poland	1222	1079
Russian Federation	1195	1059
Denmark	970	630
Brazil	932	582
Norway	855	906
Switzerland	792	500
New Zealand	770	829
India	758	64
Belgium	745	720
Austria	697	466
Jamaica	625	166
Ireland	577	334
Korea (South), Republic of	551	251
Czech Republic	474	399

How Many Solo/Group Artists Exist per Country
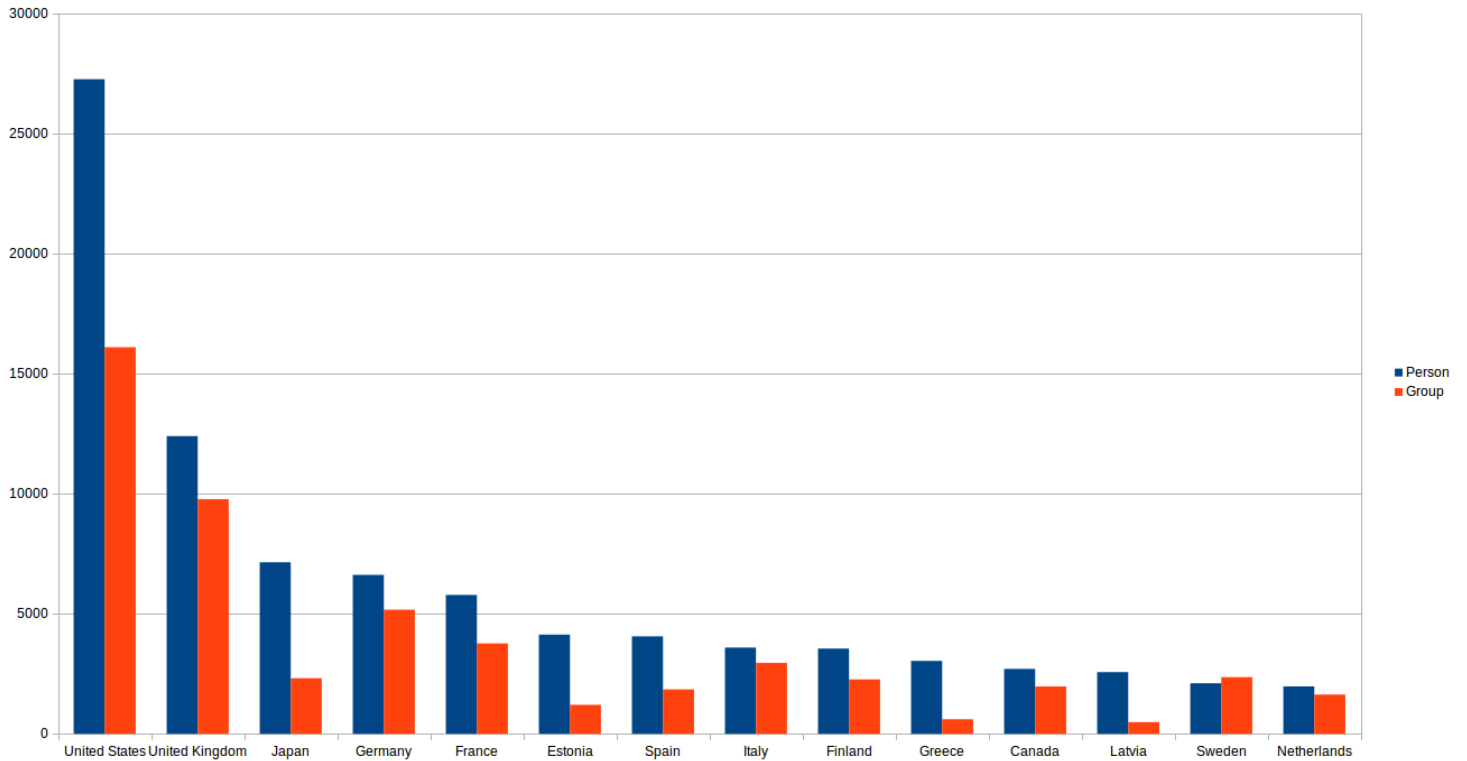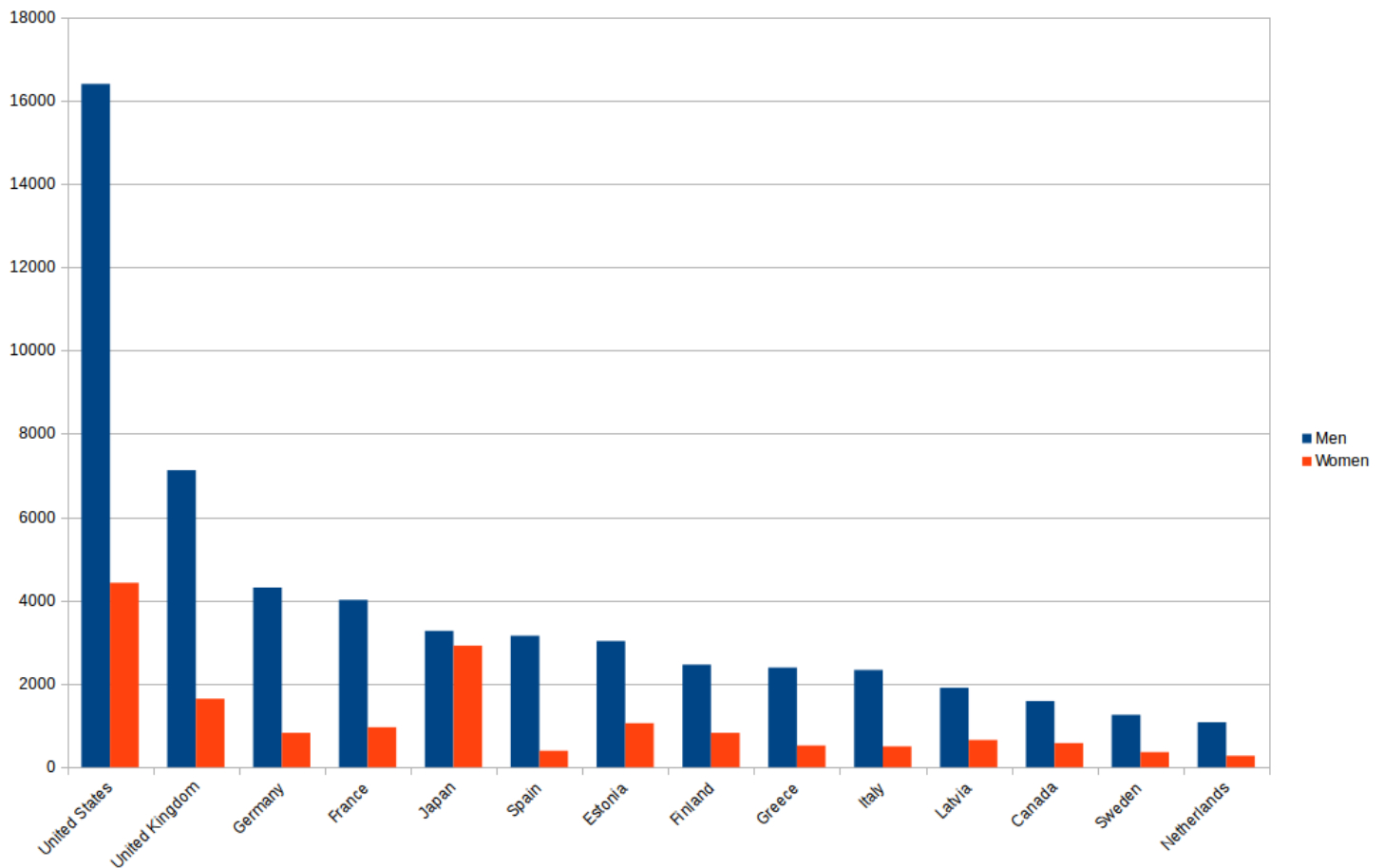

Some conclusions drawn from the above chart:

- Single-person artists are much more common than groups

- The only country to have more groups than individuals is Sweden

The Number of Men and Women Artists in Each Country

```sql
SELECT t1."c1" AS "Country", "Men", "Women"
FROM
    (SELECT country.name AS "c1", COUNT(gender.name) AS "Men"
    FROM gender, artist, country
    WHERE gender.id = artist.gender AND artist.country = country.id AND
gender.name = 'Male'
    GROUP BY country.name) t1
JOIN
    (SELECT country.name AS "c2", COUNT(gender.name) AS "Women"
    FROM gender, artist, country
    WHERE gender.id = artist.gender AND artist.country = country.id AND
gender.name = 'Female'
    GROUP BY country.name) t2
ON t2."c2" = t1."c1"
GROUP BY t1."c1"
ORDER BY "MEN" DESC, "WOMEN" DESC;
```

Country	Men	Women
United States	16394	4425
United Kingdom	7126	1643
Germany	4310	824
France	4016	959
Japan	3271	2915
Spain	3156	395
Estonia	3029	1055
Finland	2462	824
Greece	2391	521
Italy	2333	500
Latvia	1908	654
Canada	1591	578
Sweden	1258	363
Netherlands	1080	277
Turkey	919	443
Poland	824	218
Australia	815	284
Russian Federation	811	149
Switzerland	576	113
Brazil	564	213
India	554	133
Denmark	542	171
Norway	485	139
Austria	458	90
Belgium	412	108
Jamaica	409	64
Argentina	356	53
New Zealand	322	150

Listing the Number of Men and Women Artists in Each Country

Some conclusions drawn from the above chart:

- Men release more music worldwide than women.

- The only country close to gender gap parity is Japan.