

# SQL-Python Project

OBJECTIVE :This project aims to analyze and answer key business questions about a fictional music record store called Chinook.

Tasks Performed : Extracting required data from database using complex SQL queries, running queries in python and visualizing data in python

Tools used : SQL, Python

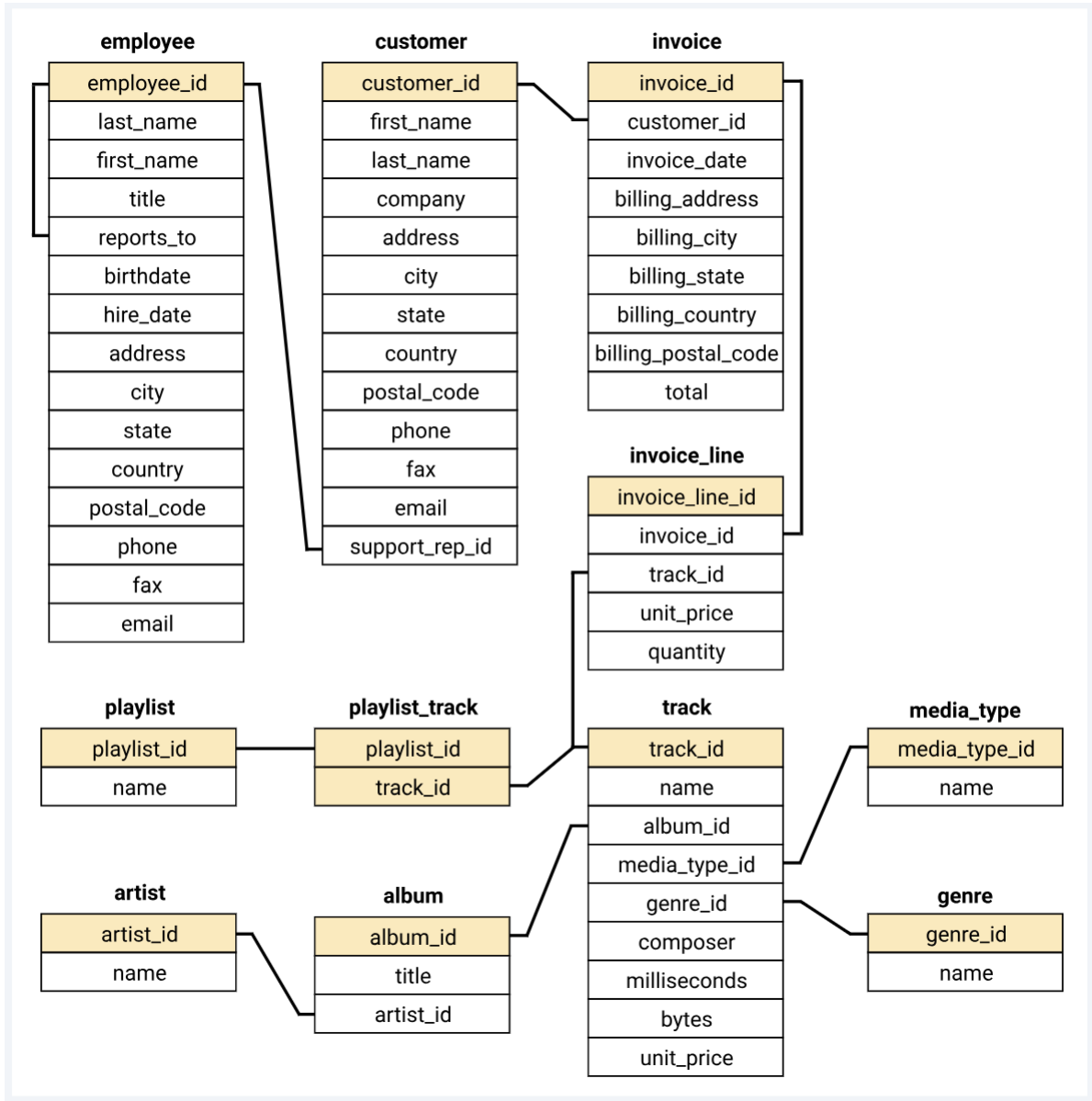
## Database

Tables :

	name	type
0	album	table
1	artist	table
2	customer	table
3	employee	table
4	genre	table
5	invoice	table
6	invoice_line	table
7	media_type	table
8	playlist	table
9	playlist_track	table
10	track	table

The schema diagram for the Chinook database looks like the following:

Relational Schema :



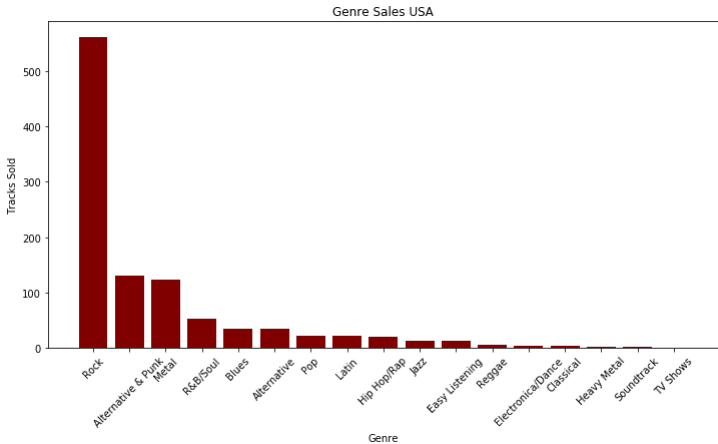
## Analysis

### Top Selling Genres in USA?

The first question to answer comes from the hypothetical situation where a record label asks the music store to promote its artists, and so it needs to find out which genres sell the most tracks in the USA, in order for them to select one artist or another.

Top 10 genres sold in USA :

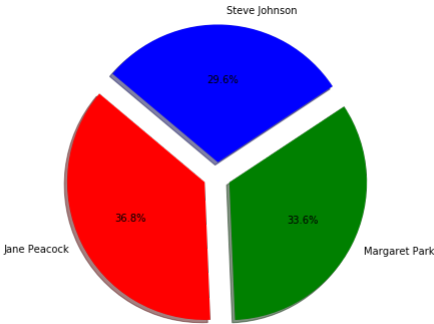
	genre	tracks_sold	percentage_sold
0	Rock	561	0.533777
1	Alternative & Punk	130	0.123692
2	Metal	124	0.117983
3	R&B/Soul	53	0.050428
4	Blues	36	0.034253
5	Alternative	35	0.033302
6	Pop	22	0.020932
7	Latin	22	0.020932
8	Hip Hop/Rap	20	0.019029
9	Jazz	14	0.013321



## Total Sales per agent ?

Analyzing the purchases of customers belonging to each employee will show if any sales support agent is performing either better or worse than the others.

	employee_name	hire_date	total_sales
0	Jane Peacock	2017-04-01 00:00:00	1731.51
1	Margaret Park	2017-05-03 00:00:00	1584.00
2	Steve Johnson	2017-10-17 00:00:00	1393.92

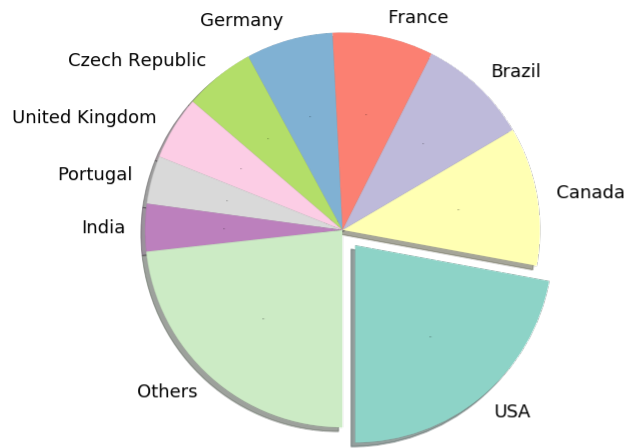


## Sales By Country

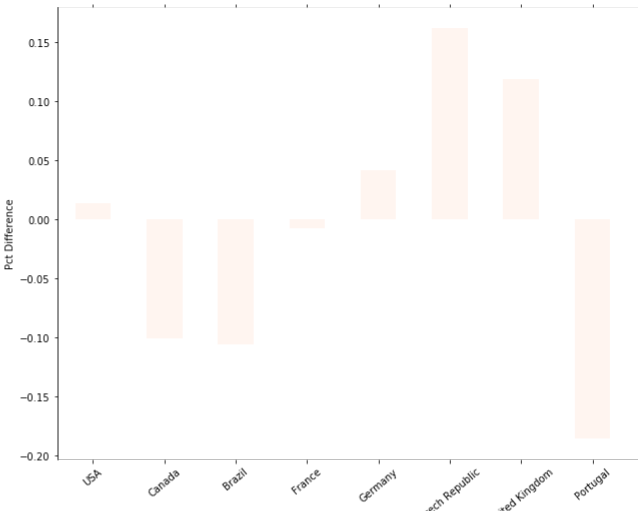
Analyzing sales by country will tell the company which ones may have potential for growth

	country	total_sales	total_customer	avg_sales_per_customer	total_orders	avg_order_value
0	USA	1040.49	13	80.037692	131	7.942672
1	Canada	535.59	8	66.948750	76	7.047237
2	Brazil	427.68	5	85.536000	61	7.011148
3	France	389.07	5	77.814000	50	7.781400
4	Germany	334.62	4	83.655000	41	8.161463
5	Czech Republic	273.24	2	136.620000	30	9.108000
6	United Kingdom	245.52	3	81.840000	28	8.768571
7	Portugal	185.13	2	92.565000	29	6.383793
8	India	183.15	2	91.575000	21	8.721429
9	Others	1094.94	15	72.996000	147	7.448571

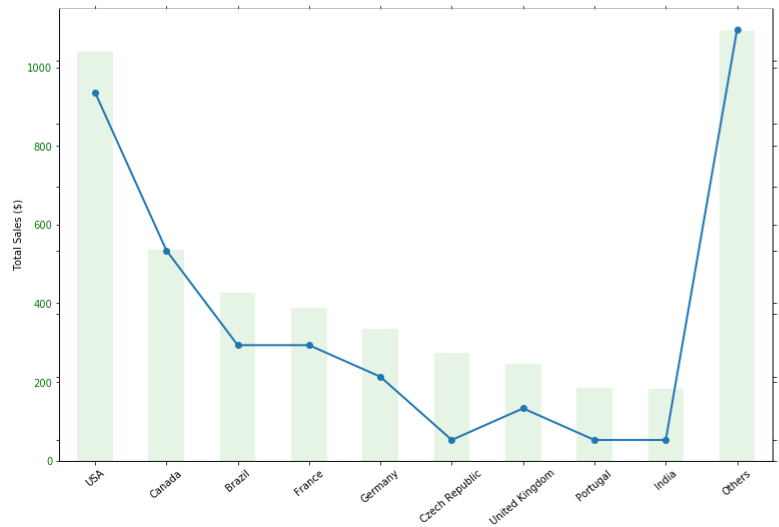
Sales Breakdown by Country



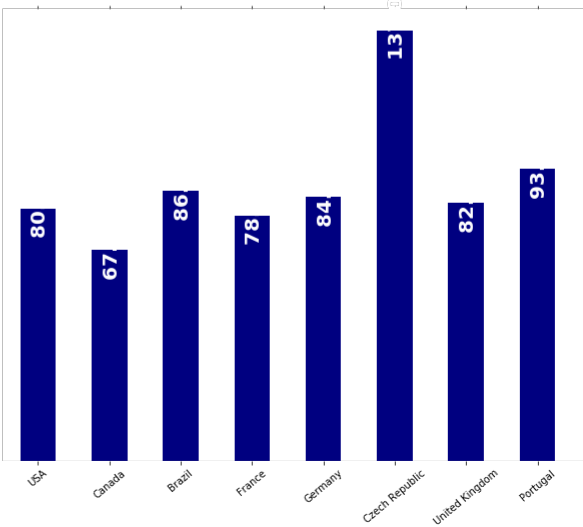
Average Order Value  
Pct Difference From Mean



Sales vs. Number of Customers by Country



Sales per Customer  
Average by Country



Purchasing Strategy: Album vs. Individual Tracks

In a fictional scenario, the company is considering changing their purchasing strategy to save money, so that users can purchase only the most popular tracks from each album from record companies, instead of purchasing every track from an album.

Finding what percentage of purchases are individual tracks vs whole albums will allow management to use that data to understand the effect this decision might have on overall revenue

	album_purchase	num_invoices	percent
0	No	500	0.814332
1	Yes	114	0.185668

