A2 - DBMS Queries

Start Assignment

Important Instructions:

1. *Upload your assignments via your canvas portal.*
2. *Use the file naming convention as follows: AssignmentNumber_FirstnName_LastName_SIS ID_YYYYMMDD. For example: If you are John Doe submitting Assignment 1, a word document, on October 21 2022 your file should look like: A1_John_Doe_999999999_10212022.doc*
3. *All reference material should be clearly mentioned in the Appendix section*
4. *Weightage 25% of 50%*

Question A.

Complete the following queries related to the **mentioned databases** by connecting, using a visual query tool. Save both the query design and results to a power point file for each question. Also copy and paste the SQL text to a separate word document. Mandatory to submit both documents. [Note: You will need to login to the respective databases by selecting the appropriate database.]
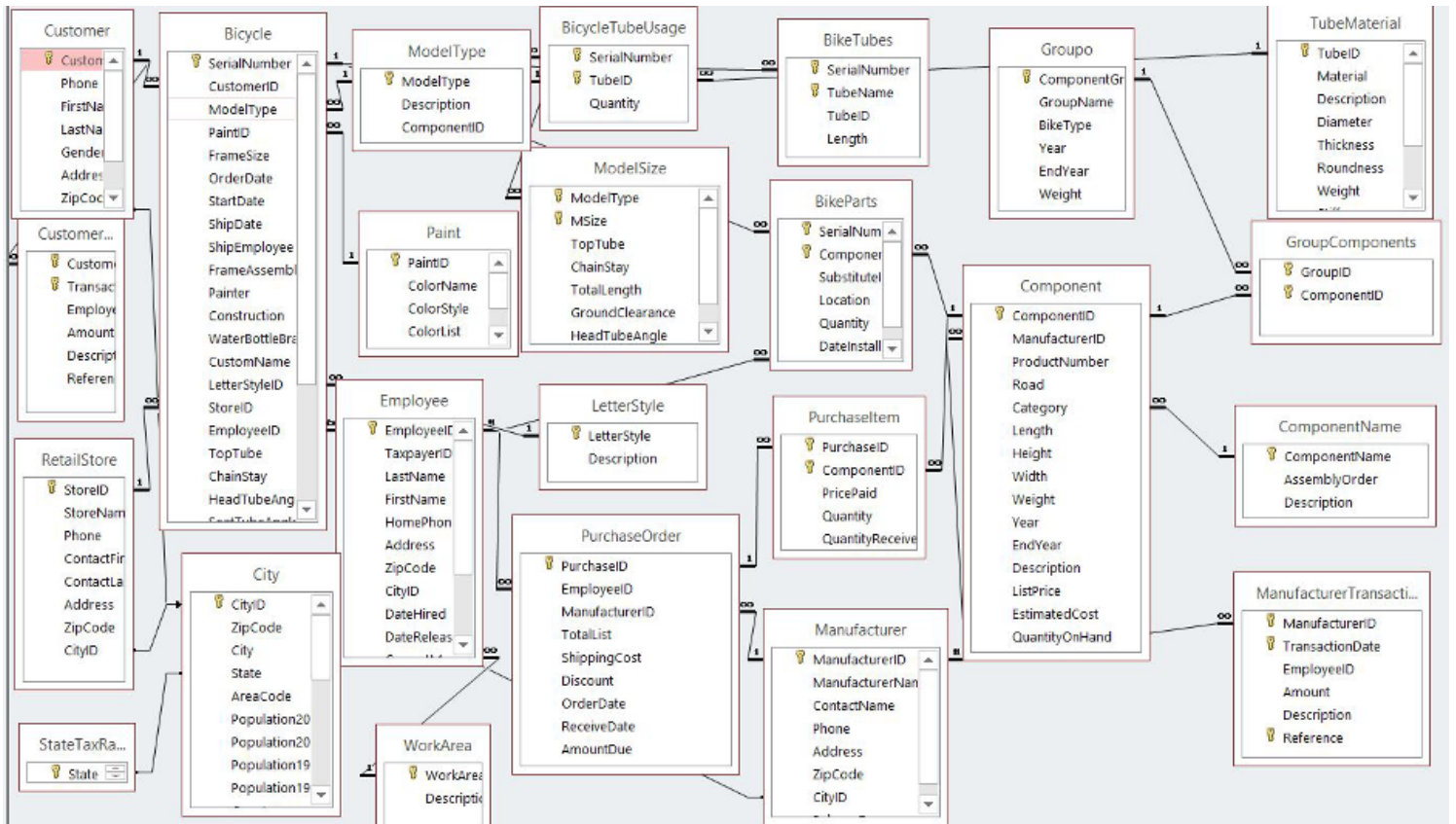
The Entity Relationship Diagram for each of the the databases is shown below in order.

A.1 PetStore Database
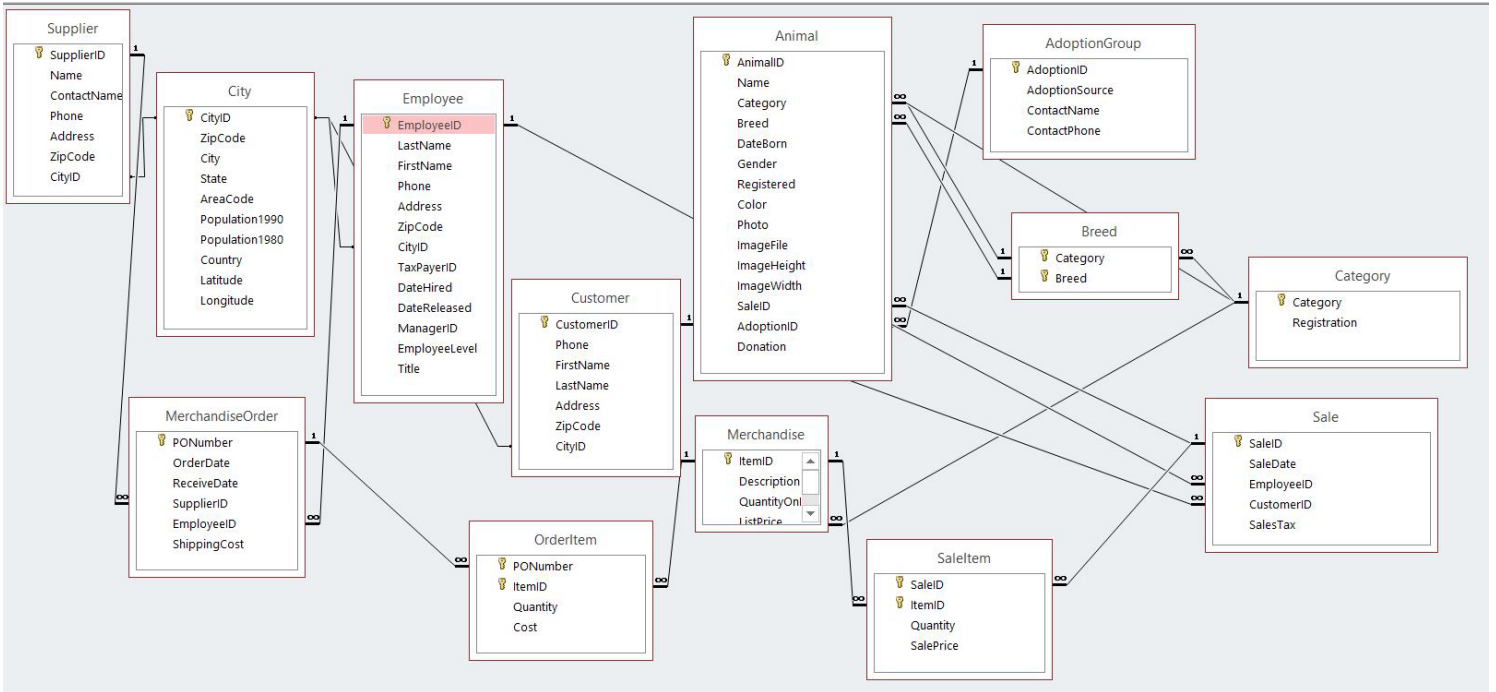
1. What is the oldest cat on the day it was sold ? Hint - oldest is defined as sale date less born. (*12 points*)
2. Compare the average sale price of registered dogs to unregistered dogs. Show both the results in descending order. (*12 points*)
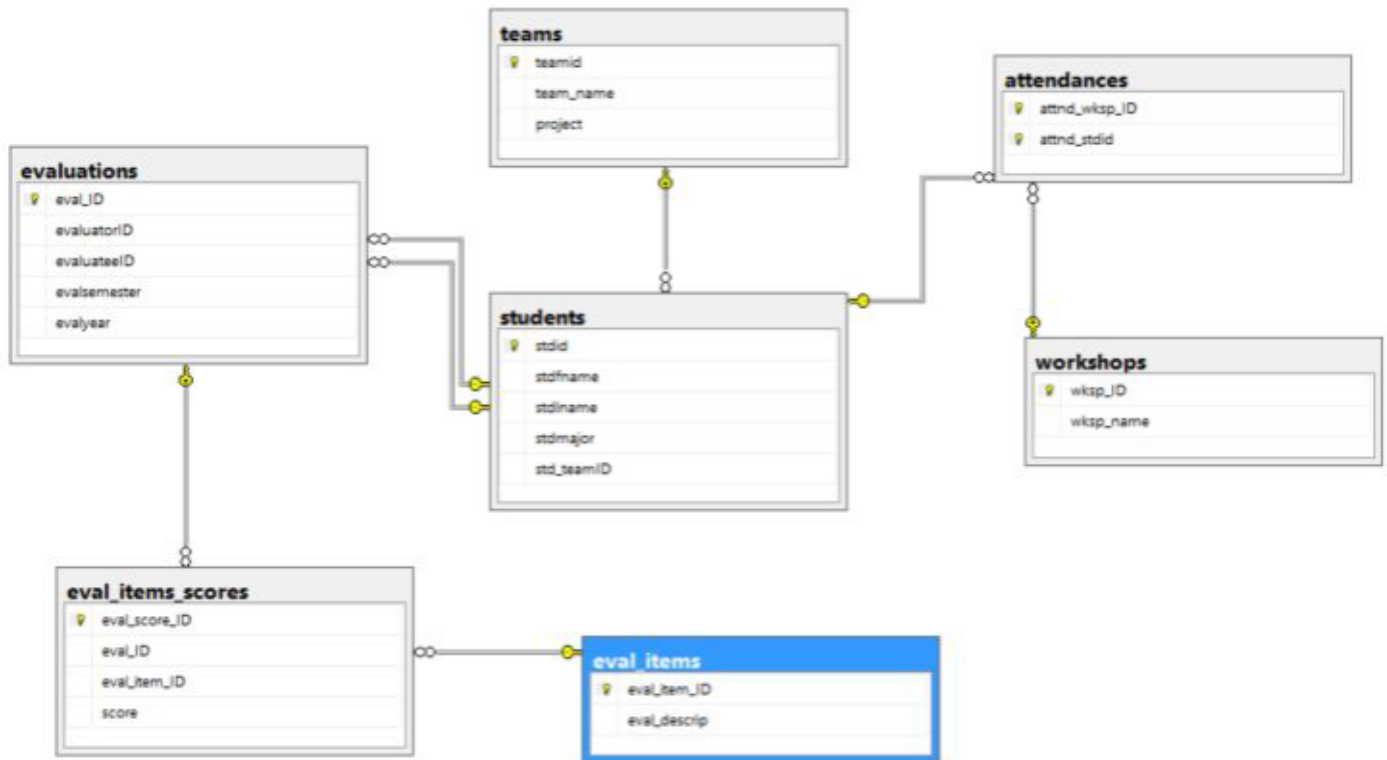
A.2 RollingThunder Database

1. What is the price of most expensive race bike sold in 2011. (*12 points*)

2. List the components installed on bike serial number 39351, in descending order of price. (*12 points*)

A.3 Student Team Database

1. Show all students and the # of evaluations they completed as the evaluator. Show the ID, last name, and evaluation count (use a column alias). Show students even if they haven't completed an evaluation. Sort by count. (*12 points*)

Question B.

Now that you have started to learn advanced SQL queries but the best way to hone your skills is to get a local setup and learn to work within your own environment.

The 4 problems in this assignment will allow you to work locally on your machine. The environment you shall use is pretty quick to set up and you can use this workspace for any future projects on your own. The following are steps that you shall be doing:

1. Download the chinook database from **here (https://pacific.instructure.com/courses/96992/files/27382144?wrap=1)** ↓ **(https://pacific.instructure.com/courses/96992/files/27382144/download?download_frd=1)** . Unzip the file on your computer.
2. Download the DB Browser for SQLite : **https://sqlitebrowser.org/dl/** ⇨ **(https://sqlitebrowser.org/dl/)**
3. Connect the DB browser for SQLite to the database. Here are the steps:

- Open up DB Browser to SQLite
- Click on *Open Database*
- Navigate to the chinook.db file (where you downloaded on your computer)
- Click on the *Execute SQL*
- Start writing/querying your data

The Entity Relationship Diagram for the chinook database is shown below:
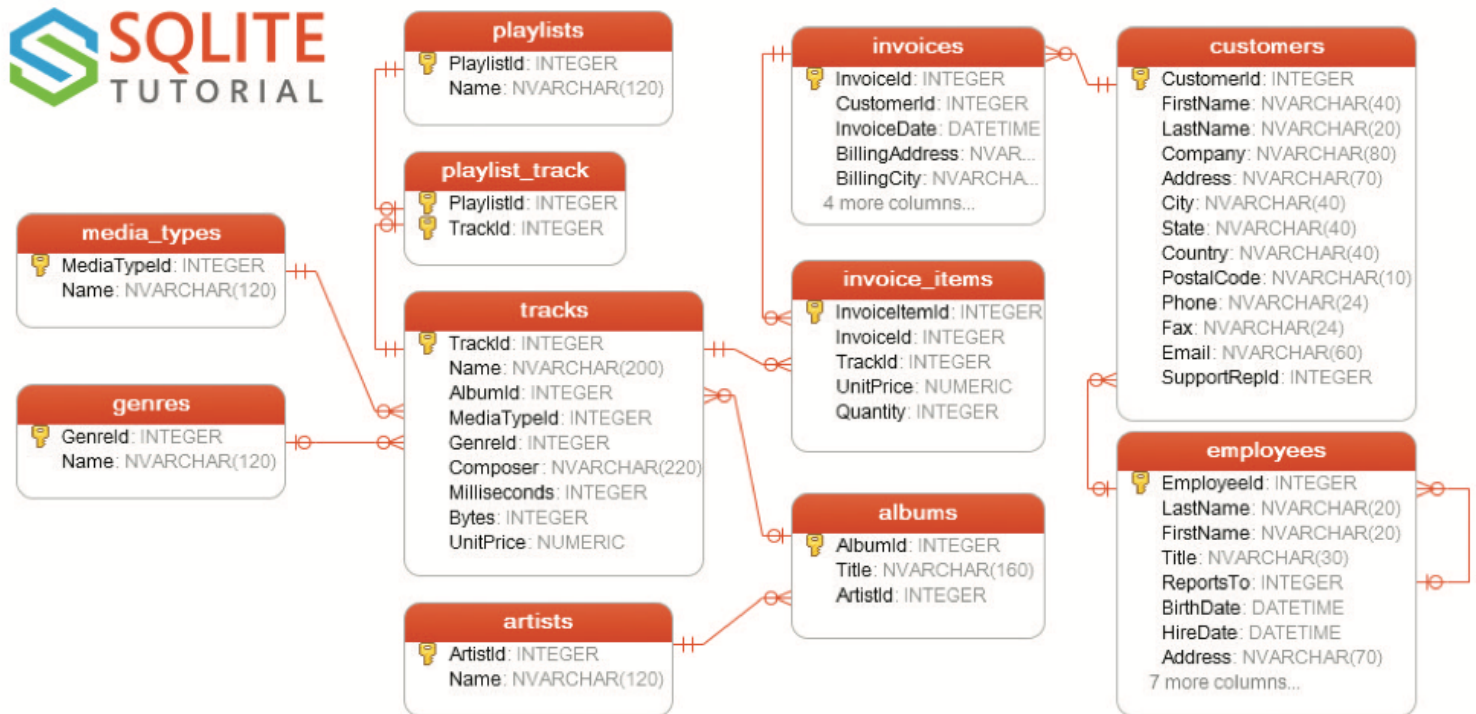
(* `invoice_items` table stores the **invoice line items** data)

- Start working on the queries to complete your assignment.
- You just need to submit the SQL query for each as a word document file.

B.1 (*10 points*)

Display the Artists, Title and the Amount earned in order by the top 50 artists. Also display a column indicating if the genre is Rock (refer image below). The highest amount earned should be at the top.

You should use the **Artist**, **Album**, **Track**, **InvoiceLine** and the **Invoice**tables.

Check Your Solution

Below is an image of what rows 5 – 11 of your table should look like. There are 165 rows but you should only limit the rows to 50.

	Name	Title	AmountEarned	Rock
5	Lost	Lost, Season 2	81.59	NO
6	The Office	The Office, Season 1	49.75	NO
7	Os Paralam...	Arquivo Os Parala...	44.55	NO
8	Deep Purple	The Battle Rages On	43.56	YES
9	Faith No More	The Real Thing	41.58	NO
10	Eric Clapton	Unplugged	39.6	NO
11	R.E.M.	The Best Of R.E.M....	38.61	NO

B.2 (*10 points*)

Write a query that determines the most popular composer amongst the customers of the city of Paris. That is music composed by composers whose music has been downloaded by the customers in the city of Paris. In other words, you need to find the number of occurrences of composers.

You should need to use the **Customer**, **Invoice, InvoiceLine and the Track** tables.

Check Your Solution

The first 8 rows are shown in the image below. The number of highest occurrences should be at the top. The total number of rows returned should be 36.

	City	Composer	NumberOfOccurances	
1	Paris	J. C. Fogerty	5	
2	Paris	Miles Davis	5	
3	Paris	Queen	4	
4	Paris	Anthony Kiedis/Chad Smith/Flea/John Fruscia…	3	
5	Paris	Bill Berry-Peter Buck-Mike Mills-Michael Stipe	3	
6	Paris	Anthony Kiedis, Flea, John Frusciante, and Ch…	2	
7	Paris	Bill Berry/Michael Stipe/Mike Mills/Peter Buck	2	
8	Paris	Green Day	2	

B.3 (*10 points*)

Find out the customer who spent the highest amount to buy music. Write a query that returns the customer id, first name, last name and the total spent by the customer. The customer that spent the highest amount should be at the top. The rest should be in order where the least spent is the last row.

For this query, you will need to use the **Customer** and the **Invoice** tables.

Check Your Solution

Your query should return 59 rows and look like the table in the image below. The first 7 rows are shown below.

	CustomerId	FirstName	LastName	TotalSpent	
1	6	Helena	Holý	49.62	
2	26	Richard	Cunningham	47.62	
3	57	Luis	Rojas	46.62	
4	45	Ladislav	Kovács	45.62	
5	46	Hugh	O'Reilly	45.62	
6	28	Julia	Barnett	43.62	
7	24	Frank	Ralston	43.62	

B.4 (*10 points*)

Write a query that determines the amount spent by customers whose last name starts with "S". Also, the last name should display in the descending order.

You should only need to use the **Customer** and **Invoice** tables.

Check Your Solution

The **first** 7 rows are shown in the image below. Notice the last names 'Schroder' and 'Schneider'.

	CustomerId	LastName	City	AmountSpent	
1	33	Sullivan	Yellowknife	37.62	
2	25	Stevens	Madison	42.62	
3	59	Srivastava	Bangalore	36.64	
4	17	Smith	Redmond	39.62	
5	31	Silk	Halifax	37.62	
6	38	Schröder	Berlin	37.62	
7	36	Schneider	Berlin	37.62	