ACIT 1630 - Relational Database Design and SQL

Project 1 - Art Gallery Website

Art Gallery Website

Introduction:

You have been hired to create a website to showcase the Major Art Galleries in Canada with the possibility of expanding to all of North America and beyond.

Website Data Requirements:

Your website will have details for how to get to each of the galleries such as address with city, province, country and postal code. We will want to be able to search our art galleries by city, province and country to help find the closest one and to group them by province. Also, since each art gallery is different, we need a great description to draw attention to the museum and attract visitors. Allow the description to be 2-5 sentences. Note that province and country should have a standardized consistent format (instead of BC, British Columbia, B.C. etc.).

Each art gallery has several phone numbers and email addresses depending on the contact point. Each contact point can choose whether they want to be contacted by phone number or email (or have both available so people have their choice). For example, an art gallery could have a phone number for ticket

sales, a phone number and email for general customer service, but just an email address for group bookings.

Each art gallery has multiple pieces of art. Although some art pieces are occasionally moved from one art museum to another, most of the time art belongs to a single museum for a long period of time. We only care about the current location of each piece of art. Many pieces of art such as paintings have only one creator, but some of the larger pieces, such as sculptures and larger fixtures belong to many artists.

There will be a separate webpage to display each artist with a list of all their artwork (pieces of art) at each of the galleries. This page will also have information on the artist like full name (first, last and middle name – although many artists don't have or we don't know their middle names), birth date and death date (if no longer living).

Each piece of art should have a title, description, completed date (if known) and art style (category). Art style categories such as "Modernism", "Cubism" or "Surrealism" should only exist in one place in the database (even if many pieces of art share the same category) to make it easier to find all the art in that particular category.

Also, each artist should have a specialty art style (category). For example, Peter Paul Rubens; His commissioned works were mostly "History Paintings", which included religious and mythological subjects, and hunt scenes. These art styles are often derived from their art collections and share the same category list as the art style.

Museums usually charge a fee for entry. These admissions depend on the museum and on the age category. For example, museums have a fee for adults and many have discounted rates for seniors, youth and children. Remember that one museum may be free for children under the age of 5, and others may not charge for children under 7.

<u>Goal:</u>

Create an Entity Relationship Diagram (ERD) using Draw.io to model your database.

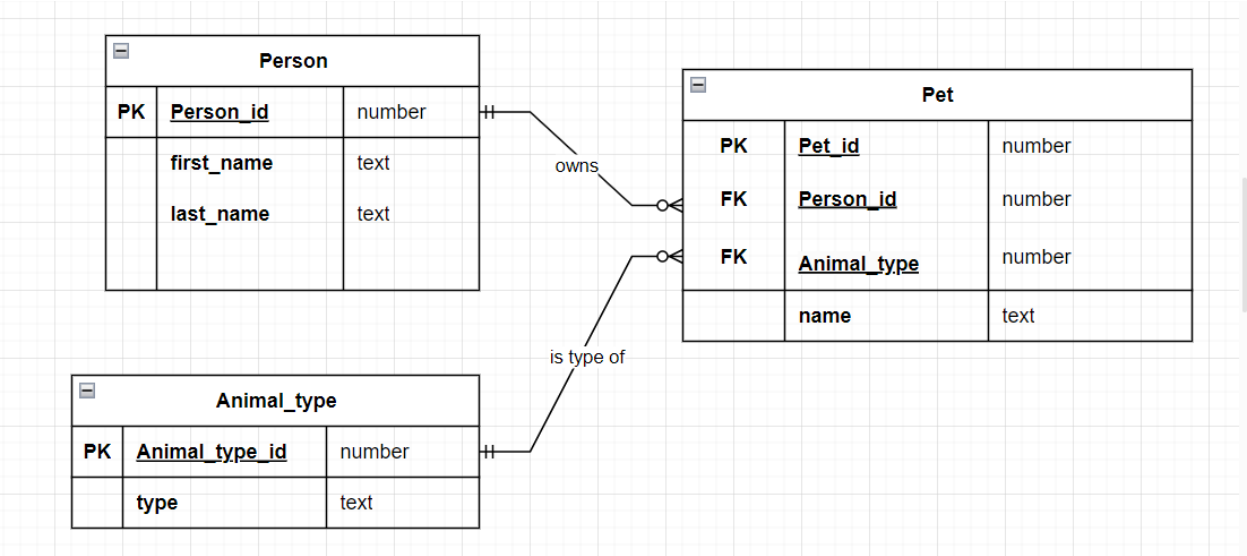
- Identify and represent all the entities.
- Identify each entity's attributes.
  Note which attributes are required and which are optional.
  Mark all attributes as required (this will make the attribute text **bold** in Draw.io).
- Identify the business rules and represent all relationships between entities.
- Indicate all primary key identity fields by adding the "_id" suffix to the name of the table. For example, if the name of the table is Person, then the primary key identity field should be person_id.
- Add attributes data types:
  - Use **number** for whole numbers such as 0, -120 and 37. ○ Use **text** for names and descriptions that are text. ○ Use **date** for values relating to dates or times.

  - Use **money** for values relating to financial data or where rounding errors could be problematic.
  - Use **float** for fractional numbers that are very large or very small (positive or negative).
- Layout your ERD so that the relationships are clear:
  - Arrange entities so that relationships are visible (not behind other entities).
  - Minimize relationship line crossing each other

Provide some sample data to demonstrate your ERD.

- For each entity (table) provide 3-4 (or more) rows of sample data to demonstrate the functionality of your database.

ERD:



Example ERD showing the formatting, layout of entities, attributes and relationships.

Sample Table Data:

Submit an excel spreadsheet with multiple sheets. Each sheet will represent a table with your sample data.

Person

person_id	first_name	last_name
1	Katie	Sylvia
2	Penny	Superbark
3	Fix-it	Felix
4	Gru	Despicable

Pet

pet_id	name	person_id	animal_type_id
1	Max	1	1
2	Duke	1	1
3	Bolt	2	1
4	Mittens	2	2
5	Rhino	2	3
6	Kyle	4	1

Animal_Type

animal_type_id	type
1	Dog
2	Cat
3	Hamster

Example Tables (Person, Pet and Animal_Type) showing 3-4 (or more) rows of sample data for the tables.

Marking Criteria:

Criteria	Marks
Overall Professional Layout: • Set Design Theme Variant to "Parallels Variant 2". • Entities laid out to minimize relationship lines from crossing.	**5 marks**
Entities created with: • Correct names • Correct entity size (not too big – remove space on right, or too small – text not wrapping) • Line separators between Primary Keys, Foreign Keys, and other Attributes	3 marks / entity
Entity Attributes with: • Correct names • Primary Keys and Foreign Keys are indicated if applicable. use "_id" to indicate automatic identity columns. • Appropriate attribute data types. • Correctly identified as Required or Optional	2 marks / attribute
Entity Relationships: • Line weight of 1 ½ pt. • Correct line ends. • Correct name with text size 10 pt.	3 marks / relationship
Sample Data for each Entity (Table):	2 marks / entity

• 3-4 (or more) rows	
Entities/Attributes/Relationships	**50 marks total**
Total:	**55 marks**

Note: the number of entities in your diagram may vary slightly.

Submission Requirements:

Part 1 Submissions:	**File name:**
Draw.io ER Diagram	Art_Gallery.pdf
Excel File with Sample Data	Art_Gallery_Sample_Data.xlsx