MySQL Pill

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Task organization

The tasks were organized in the following way:

1. Reading the Project description.
2. Importing the DataBase.
3. Inserting Data to the DataBase.
4. Updating the Data
5. Obtaining Data.
6. Delete Data.
7. Create an SQL file.

Knowledge learned

- MySQL is an open-based Relational DataBase Management System (RDBMS).
- RDBMS= software that lets you define, create, maintain and control a DataBase.
- SQL stands for “Structured Query Language”.
- You can use use SQL if you access localhost/phpmyadmin.
- SQL is used to create software that stores data.

Difficulties arisen

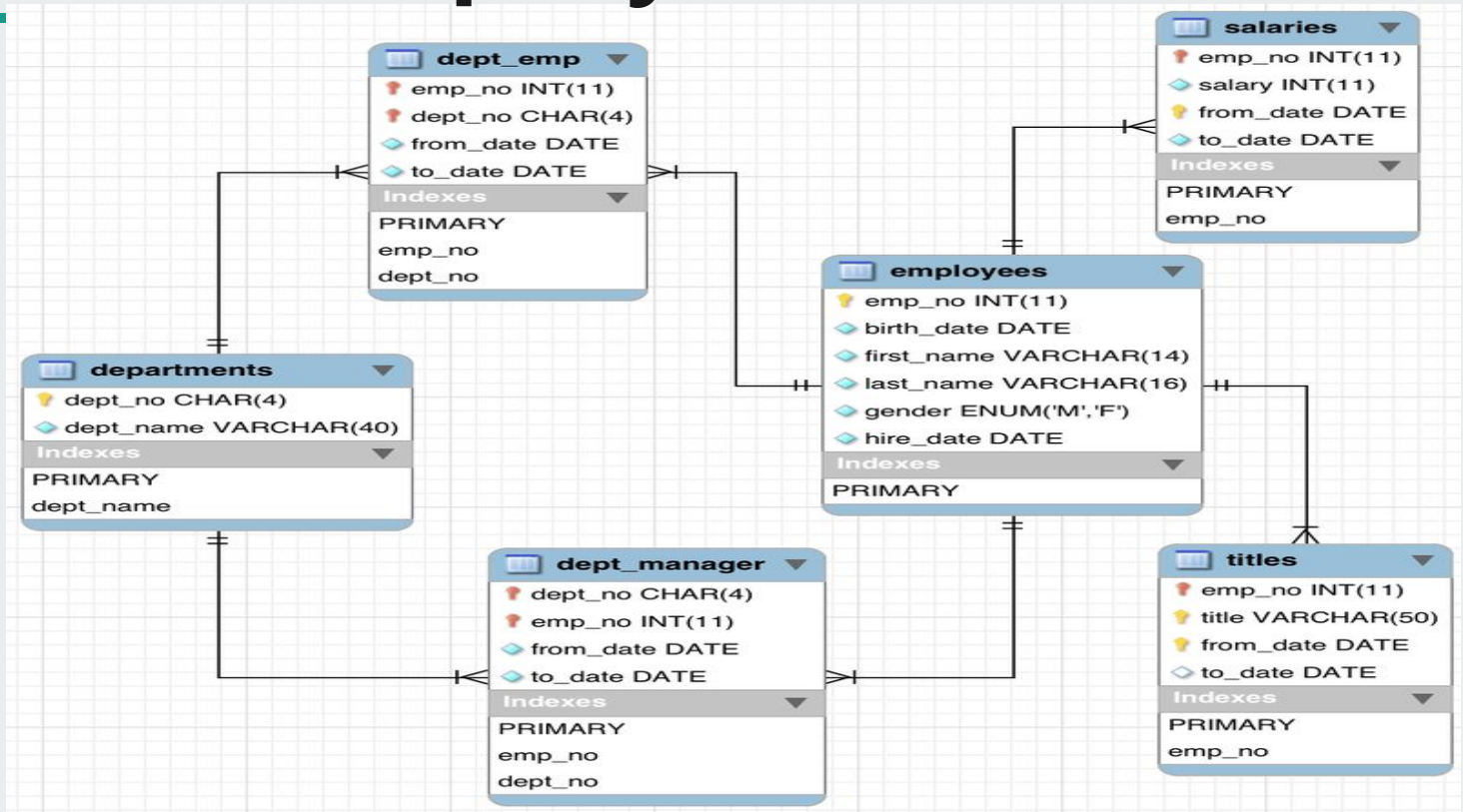
- Zero previous experience with SQL, made work difficult.
- Difficulties understanding how to modify Data with SQL.
- Difficulties understanding how to insert Data.

Importing a Database

- To import a DataBase you should use the following Command:

  $ mysql -u root -p

The Employees Schema



Making Queries

There are 4 types of Queries in MYSQL. They are the following:

1. **Delete**: In MySQL, we can delete data using the DELETE and TRUNCATE statements. The TRUNCATE statement is a MySQL extension to the SQL specification.

2. **Insert**: The INSERT statement is used to insert data into tables.

3. **Select**: The SELECT statement allows you to query partial data of a table by specifying a list of comma-separated columns in the SELECT clause.

4. **Update**: The MySQL UPDATE query is used to update existing records in a table in a MySQL database.

Queries and their Syntax

Hello

What kinds of keys exist?

- A key, in a relational database is a data constraint on a column or set of columns.
- DBMS has following seven types of Keys each have their different functionality:
  -Super Key
  -Primary Key
  -Candidate Key
  -Alternate Key
  -Foreign Key
  -Compound Key
  -Composite Key
  -Surrogate Key

MySQL Data Types

MySQL Data Types: Numeric

Data Type	Storage Required
TINYINT	1 byte
SMALLINT	2 bytes
MEDIUMINT	3 bytes
INT, INTEGER	4 bytes
BIGINT	8 bytes
FLOAT(*p*)	4 bytes if 0 <= *p* <= 24, 8 bytes if 25 <= *p* <= 53
FLOAT	4 bytes
DOUBLE [PRECISION], REAL	8 bytes
DECIMAL(*M*,*D*), NUMERIC(*M*,*D*)	Varies; see following discussion
BIT(*M*)	approximately (*M*+7)/8 bytes

MySQL Data Types: Strings

Data Type Syntax	Maximum Size	Explanation
CHAR(*size*)	Maximum size of 255 characters.	Where ***size*** is the number of characters to store. Fixed-length strings. Space padded on right to equal ***size*** characters.
VARCHAR(*size*)	Maximum size of 255 characters.	Where ***size*** is the number of characters to store. Variable-length string.
TINYTEXT(*size*)	Maximum size of 255 characters.	Where ***size*** is the number of characters to store.
TEXT(*size*)	Maximum size of 65,535 characters.	Where ***size*** is the number of characters to store.
MEDIUMTEXT(*size*)	Maximum size of 16,777,215 characters.	Where ***size*** is the number of characters to store.
LONGTEXT(*size*)	Maximum size of 4GB or 4,294,967,295 characters.	Where ***size*** is the number of characters to store.
BINARY(*size*)	Maximum size of 255 characters.	Where ***size*** is the number of binary characters to store. Fixed-length strings. Space padded on right to equal ***size*** characters. (Introduced in MySQL 4.1.2)
VARBINARY(*size*)	Maximum size of 255 characters.	Where ***size*** is the number of characters to store. Variable-length string. (Introduced in MySQL 4.1.2)

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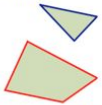
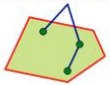
MySQL Data Types: Date & Time

Data Type Syntax	Maximum Size	Explanation
DATE	Values range from '1000-01-01' to '9999-12-31'.	Displayed as 'YYYY-MM-DD'.
DATETIME	Values range from '1000-01-01 00:00:00' to '9999-12-31 23:59:59'.	Displayed as 'YYYY-MM-DD HH:MM:SS'.
TIMESTAMP(m)	Values range from '1970-01-01 00:00:01' UTC to '2038-01-19 03:14:07' UTC.	Displayed as 'YYYY-MM-DD HH:MM:SS'.
TIME	Values range from '-838:59:59' to '838:59:59'.	Displayed as 'HH:MM:SS'.
YEAR([2|4])	Year value as 2 digits or 4 digits.	Default is 4 digits.

MySQL Data Types: Spatial

Geometry Type	*WKT representation*
Point	POINT(3 7)
Multipoint 	MULTIPOINT(3 7, 4 2, 8 6)
LineString 	LINESTRING(1 2, 3 6, 9 4)
MultiLineString 	MULTILINESTRING((1 8, 4 4), (4 9, 8 5, 6 2, 1 4))
Polygon 	POLYGON((1 2, 6 1, 9 3, 8 5, 3 6, 1 2))
Polygon (*with hole*) 	POLYGON((1 2, 6 1, 9 3, 8 5, 3 6, 1 2), (3 3, 5 5, 6 2, 3 3))
MultiPolygon 	MULTIPOLYGON(((1 2, 6 1, 9 3, 3 6, 1 2)), ((4 9, 7 6, 9 8, 4 9)))
GeometryCollection 	GEOMETRYCOLLECTION(POINT(4 5), POINT(7 4), POINT(6 2), LINESTRING(4 5, 6 7, 7 4, 6 2), POLYGON((1 2, 6 1, 9 3, 8 5, 3 6, 1 2)))

What is a Collation?

- Collation= set of rules that defines how to compare and sort character strings.
- Each collation belongs to a single character set.
- Every character set has at least one collation, and most have two or more collations.
- A collation orders characters based on weights.
- utf8_unicode_ci also supports contractions and ignorable characters. utf8_general_ci is a legacy collation that does not support expansions, contractions, or ignorable characters.
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THANK YOU!