SQL

1. Complex Query

SELECT

customerName,

COUNT(\*) AS 'number of orders'

FROM customers

ON orders.customerID = customers.customerID

GROUP BY customers.customerID;

What is Database ?

1. Collection of data

2. It contains the method for accessing and manipulating that data

COMMANDS - mysql-ctl cli = for goorm container

# show databases;

# create database <name>;

# drop database <name>;

# use <database\_name>;

# select database(); - for which db is use

TABLES

- Columns (headers) ex: name age

- Data types

+ numeric Types - INT, SMALLINT, TINYINT, MIDIUMINT, BIGINT, DECIMAL, NUMERIC, FLOAT, DOUBLE, BIT

+ string Types - CHAR, VARCHAR, BINARY, VARBINARY, BLOB, TINYBLOB, MEDIUMBLOB, LONGBLOB, TEXT, TINYTEXT, MEDIUMTEXT, LONGTEXT, ENUM

+ date Types - DATE, DATETIME, TIMESTAMP, TIME

CREATE TABLE

# create table tablename (column\_name data\_type,..);

# show tables;

# show columns from tablename; || desc tablename;

DELETE TABLE

# drop table tablename;

INSERT INTO TABLE

# insert into tablename (column\_name, ...) values ("string", int);

# insert into tablename (column\_name, ...) values ("string", int), ("string", int);

VIEW TABLE DATA

# select \* from tablename;

WARNINGS - # show warnings;

NULL - Unknown Value not Zero

NOT NULL Constraint

# create table cats2 (name varchar(50) not null, age int not null);

+ if you dont provide value while using NOT NULL Constraints then it will show blank for string value and 0 for integer value

DEFAULT VALUE

# create table cats (name varchar(20) default 'no name provided', age int default 99);

+ if you dont provide any value while inserting then it will use the default value to show in table.

KEYS

+ Primary key

# create table unique\_cats (cat\_id int not null, name varchar (10), age int, PRIMARY KEY (cat\_id));

- - Auto Increment

-- # create table unique\_cats2 (cat\_id int not null AUTO\_INCREMENT, name varchar (10), age int, primary key (cat\_id));

-- + # insert into unique\_cats2 (name, age) values ("Phew" , 4); -- it will automatically add the cat\_id in table

SELECT

# select \* from cats;

# select name, age from cats;

-- WHERE CLAUSE

--# select \* from cats WHERE age = 4;

--# select \* from cats WHERE name = 'egg';

--# select \* from cats where cat\_id = age; // compare two diff columns having same data type

--- ALIASES

---# select cat\_id as Id, name from cats;

UPDATE

# update cats SET breed = 'shorthair' WHERE breed = 'tabby';

# update shirts SET shirt\_size = 'XS', color='off white' WHERE color='white';

DELETE

# delete from cats where name = 'egg';

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SQL FILES

RUNNING QUERIES USING FILE = ls -> enter file where query is written -> use database -> source filename.sql -> enter

STRING FUNCTION

+ CONCAT

-# concat ('hello', 'world');

-# concat ('hello', ' ', 'world');

-# SELECT CONCAT (author\_f, ' ', author\_l) from books;

-#SELECT author\_f as 'first', author\_l as 'last', CONCAT (author\_f, ' ', author\_l) as fullname from books;

++CONCAT\_WS

---# SELECT CONCAT\_WS(' - ', title, author\_fname, author\_lname) FROM books;

+ SUBSTRING / SUBSTR

-# SELECT substring (title, 1, 15) AS 'short title' FROM books;

+++ Substring + Concat +++

----# SELECT concat ( substring(title, 1, 10), '...' ) AS 'short title' FROM books;

+ REPLACE

-# select REPLACE (title, 'e', '3') from books;

+++ Substring + Replace +++

---# Select substring(REPLACE (title, '3', 'e'), 1 , 15) from books;

+ REVERSE

-# select REVERSE (author\_fname) from books;

+++ CONCAT + REVERSE +++

---# select CONCAT('woof', REVERSE ('woof')); --- to make a palendrom version

+ CHAR\_LENGTH

-# select author\_f, CHAR\_LENGTH(author\_f) AS len from books;

+++ CONCAT + CHAR\_LENGTH +++

-# select CONCAT(author\_l, ' is ', CHAR\_LENGTH(author\_l), ' character long ' from books;