Altering your first database

**Copy table**

**CREATE** **TABLE** new\_birdstrikes **LIKE** birdstrikes;

**SHOW** TABLES;

**DESCRIBE** new\_birdstrikes;

**SELECT** \* **FROM** new\_birdstrikes;

**Delete table**

**DROP** **TABLE** IF **EXISTS** new\_birdstrikes;

**Create table**

Exercise1

Based on the previous chapter, create a table called “employee” with two columns: “id” and “employee\_name”. NULL values should not be accepted for these 2 columns.

**Insert new rows (records)**

**Insert lines in employee table one by one**

**INSERT** **INTO** employee (id,employee\_name) **VALUES**(1,'Student1');

**INSERT** **INTO** employee (id,employee\_name) **VALUES**(2,'Student2');

**INSERT** **INTO** employee (id,employee\_name) **VALUES**(3,'Student3');

**Let’s check the results**

**SELECT** \* **FROM** employee;

**What happens if you try this (and why)?**

**INSERT** **INTO** employee (id,employee\_name) **VALUES**(3,'Student4');

**Updating rows**

**UPDATE** employee **SET** employee\_name='Arnold Schwarzenegger' **WHERE** id = '1';

**UPDATE** employee **SET** employee\_name='The Other Arnold' **WHERE** id = '2';

**Let’s check the results**

**SELECT** \* **FROM** employee;

**Deleting rows**

**Deleting some records**

**DELETE** **FROM** employee **WHERE** id = 3;

**Let’s check the results**

**SELECT** \* **FROM** employee

**Deleting all rows**

**TRUNCATE** employee;

**Let’s check the results**

**SELECT** \* **FROM** employee;

Users and privileges

**Creating new user**

**CREATE** **USER** 'laszlosallo'@'%' IDENTIFIED **BY** 'laszlosallopassw';

**Giving full rights for table employee**

**GRANT** **ALL** **ON** birdstrikes.employee **TO** 'laszlosallo'@'%';

**Giving rights to see one column of birdstrikes**

**GRANT** **SELECT** (**state**) **ON** birdstrikes.birdstrikes **TO** 'laszlosallo'@'%';

**Deleting user**

**DROP** **USER** 'laszlosallo'@'%';

More advanced selects

**New column**

**Create a new column**

**SELECT** \*, speed/2 **FROM** birdstrikes;

**Aliasing**

**SELECT** \*, speed/2 **AS** halfspeed **FROM** birdstrikes;

**Using Limit**

**List the first 10 records**

**SELECT** \* **FROM** birdstrikes **LIMIT** 10;

**List the first 1 record, after the the first 10**

**SELECT** \* **FROM** birdstrikes **LIMIT** 10,1;

Exercise2

What state figures in the 145th line of our database?

**Ordering data**

**Order by a field**

**SELECT** **state**, cost **FROM** birdstrikes **ORDER** **BY** cost;

**Order by a multiple fields**

**SELECT** **state**, cost **FROM** birdstrikes **ORDER** **BY** **state**, cost **ASC**;

**Reverse ordering**

**SELECT** **state**, cost **FROM** birdstrikes **ORDER** **BY** cost **DESC**;

Exercise3

What is flight\_date of the latest birstrike in this database?

**Unique values**

**Of a column**

**SELECT** **DISTINCT** damage **FROM** birdstrikes;

**Unique pairs**

**SELECT** **DISTINCT** airline, damage **FROM** birdstrikes;

Exercise4

What was the cost of the 50th most expensive damage?

**Filtering**

**Select the lines where states is Alabama**

**SELECT** \* **FROM** birdstrikes **WHERE** **state** = 'Alabama';

Data types

  
  
Comparison Operators



Filtering with VARCHAR

**NOT EQUAL**

**Select the lines where states is not Alabama**

**SELECT** \* **FROM** birdstrikes **WHERE** **state** != 'Alabama'

**States starting with ‘A’**

**LIKE**

**SELECT** **DISTINCT** **state** **FROM** birdstrikes **WHERE** **state** **LIKE** 'A%';

**Note the case (in)sensitivity**

**SELECT** **DISTINCT** **state** **FROM** birdstrikes **WHERE** **state** **LIKE** 'a%';

**States starting with ‘ala’**

**SELECT** **DISTINCT** **state** **FROM** birdstrikes **WHERE** **state** **LIKE** 'ala%';

**States starting with ‘North ‘ followed by any character, followed by an ‘a’, followed by anything**

**SELECT** **DISTINCT** **state** **FROM** birdstrikes **WHERE** **state** **LIKE** 'North \_a%';

**States not starting with ‘A’**

**SELECT** **DISTINCT** **state** **FROM** birdstrikes **WHERE** **state** **NOT** **LIKE** 'a%' **ORDER** **BY** **state**;

**Logical operators**

**Filter by multiple conditions**

**SELECT** \* **FROM** birdstrikes **WHERE** **state** = 'Alabama' **AND** bird\_size = 'Small';

**SELECT** \* **FROM** birdstrikes **WHERE** **state** = 'Alabama' **OR** **state** = 'Missouri';

**IS NOT NULL**

**Filtering out nulls and empty strings**

**SELECT** **DISTINCT** **state** **FROM** birdstrikes **WHERE** **state** **IS** **NOT** **NULL** **AND** **state** != '' **ORDER** **BY** **state**;

**IN**

**What if I need ‘Alabama’, ‘Missouri’,’New York’,’Alaska’? Should we concatenate 4 AND filters?**

**SELECT** \* **FROM** birdstrikes **WHERE** **state** **IN** ('Alabama', 'Missouri','New York','Alaska');

**LENGTH**

**Listing states with 5 characters**

**SELECT** **DISTINCT**(**state**) **FROM** birdstrikes **WHERE** **LENGTH**(**state**) = 5;

Filtering with INT

**Speed equals 350**

**SELECT** \* **FROM** birdstrikes **WHERE** speed = 350;

**Speed equal or more than 25000**

**SELECT** \* **FROM** birdstrikes **WHERE** speed >= 10000;

**ROUND, SQRT**

**SELECT** ROUND(SQRT(speed/2) \* 10) **AS** synthetic\_speed **FROM** birdstrikes;

**BETWEEN**

**SELECT** \* **FROM** birdstrikes **where** cost **BETWEEN** 20 **AND** 40;

Exercise5

What state figures in the 2nd record, if you filter out all records which have no state and no bird\_size specified?

Filtering with DATE

Date is “2000-01-02”

**SELECT** \* **FROM** birdstrikes **WHERE** flight\_date = "2000-01-02";

All entries where flight\_date is between “2000-01-01” AND “2000-01-03”

**SELECT** \* **FROM** birdstrikes **WHERE** flight\_date >= '2000-01-01' **AND** flight\_date <= '2000-01-03';

BETWEEN

**SELECT** \* **FROM** birdstrikes **where** flight\_date **BETWEEN** "2000-01-01" **AND** "2000-01-03";

Exercise6

How many days elapsed between the current date and the flights happening in week 52, for incidents from Colorado? (Hint: use NOW, DATEDIFF, WEEKOFYEAR)

Homework 2

* Upload the solution of exercise 1-6 to your GitHub repo in a folder called HW2
* Make sure to submit both the SQL statements and answers to the questions
* The required data format for submission is a .sql file
* Submit GitHub repo link to moodle when you are ready