Lab 1

Creating a Database
ER Diagram

Entity - Object contained in database

Entity Set - A collection of similar entities

Weak Entity - Entity that relies on existence of another entity

Attributes - Information that describes an entity

Relationship - Association between entities
**Keys**

Super Key - Set of columns that uniquely identify a row Ex(SSN, ID, Name)

Candidate Key - Minimal set of columns that uniquely identify a row Ex(SSN & ID)

Primary Key - Distinct set of columns that uniquely identify a row Ex(SSN or ID)

Foreign Key - References the primary key of another table
Mappings

One-to-One (Row maps to one row)

Many-to-One (Many rows map to one row)

One-to-Many (One row maps to many rows)

Many-to-Many (many rows map to many rows)
Symbols

- = Entity
- = Attribute
- = Relationship
Space Missions: Plan Database

- Have set of spacecrafts
  - Attributes: SID, Name, Capacity, Type
- Have set of destinations
  - Attributes: DID, Name, Size, Type
- Spacecrafts go on missions to destinations
  - Each spacecraft can only go to one
  - Multiple spacecrafts can go to the same destination
  - A description of the mission is provided
  - Duration of mission is known
Space Missions: Create Database in MySQL

Useful Commands:

CREATE DATABASE d_name;

CREATE TABLE t_name(col_1 DATATYPE, col_2 DATATYPE, ...); (creates table)

INSERT INTO t_name(col_1, col_2, ... ) VALUEs (val_1, val_2, ...); (inserts into table)

ALTER TABLE t_name ADD new_col DATATYPE; (alters table)

ALTER TABLE t_name ADD FOREIGN KEY (col) REFERENCES t_name(col); (Creates foreign key)

UPDATE t_name SET col = val WHERE some_col = parameter; (updates row of table)

DELETE FROM t_name WHERE some_col = parameter; (Deletes row of data)

http://dev.mysql.com/doc/refman/5.7/en/data-types.html (Link to MySQL Data Types)