Abdifatah Dahiye

CS300

Nathan Johnson

10/15/2022

**Designing Database with ERDs and SQL**

A picture containing text, whiteboard

Description automatically generated

**2.** CREATE TABLE shipping

(

name VARCHAR(255) NOT NULL,

displacement INT NOT NULL,

captain VARCHAR(255) NOT NULL,

crew INT NOT NULL,

home\_port VARCHAR(255) NOT NULL,

year INT NOT NULL,

PRIMARY KEY (name)

);

CREATE TABLE ports

(

name VARCHAR(255) NOT NULL,

city VARCHAR(255) NOT NULL,

country VARCHAR(255) NOT NULL,

PRIMARY KEY (name)

);

CREATE TABLE containers

(

container\_id INT NOT NULL,

height INT NOT NULL,

width INT NOT NULL,

length INT NOT NULL,

weight INT NOT NULL,

ship\_id INT,

PRIMARY KEY (container\_id),

FOREIGN KEY (ship\_id) REFERENCES shipping(name)

);

1. **#synatx to create Script For DML**

MYSQLDUMP shipping  > **shipping\_data**. sql

**#Syntax to Insert into Port Table**

INSERT INTO Port VALUES('Port of Seattle','Seattle','Washington');  
INSERT INTO Port VALUES('Port of Tacoma','Tacoma','Washington');  
INSERT INTO Port VALUES('Port of Renton','Renton','Washington');  
INSERT INTO Port VALUES('Port of Burien','Burien','Washington');  
INSERT INTO Port VALUES('Port of Tukwila','Tukwila','Washington');

**#Syntax to Insert into Ship Table**  
INSERT INTO Ship Values('INS Ari',200,'John',100,'2022','Port of Seattle');  
INSERT INTO Ship Values('INS Kal',130,'Tom',200,'2022','Port of Tacoma');  
INSERT INTO Ship Values('INS Mike',200,'Rayn',300,'2022','Port of Renton');  
INSERT INTO Ship Values('INS Karn',120,'Roy',200,'2022','Port of Burien');  
INSERT INTO Ship Values('INS Vela',300,'Suahsh',150,'2022','Port of Tukwila');  
INSERT INTO Ship Values('INS Safi',100,'Smarth',100,'2022','Port of Kent');  
INSERT INTO Ship Values('INS Nelson',200,'Ali',100,'2022','Port of Covington');  
INSERT INTO Ship Values('INS Merson',175,'Asif',300,'2022','Port of Des Moines');  
INSERT INTO Ship Values('INS Michael',300,'Azal',200,'2022','Port of Federal Way');  
INSERT INTO Ship Values('INS Sanka',200,'Mia',100,'2022','Port of Redmond');

**#Synatx to Insert into Container table.**

INSERT INTO container VALUES(111,121, 56,78,45678,'INS Ari ');  
INSERT INTO container VALUES(112,135, 56, 678,56783,'INS Kal');  
INSERT INTO container VALUES(113,121, 56,678,45678,'INS Mike ');  
INSERT INTO container VALUES(114,121, 56, 678,78643,'INS karn');  
INSERT INTO container VALUES(115,121,56,678,56423,'INS Vela');  
INSERT INTO container VALUES(116,121, 56, 678,45678,'INS Safi');  
INSERT INTO container VALUES(117,121, 56, 678,45637,'INS Nelson');  
INSERT INTO container VALUES(118,121, 56, 678,65784,'INS Merson');  
INSERT INTO container VALUES(119,121, 56, 678,13256,'INS Sanka');  
INSERT INTO container VALUES(220,121, 56, 678,57699,'INS Dahiye');  
INSERT INTO container VALUES(221,121, 56, 678,13256,'INS Michael');  
INSERT INTO container VALUES(222,121, 56, 678,13256,'INS AM');  
INSERT INTO container VALUES(223,121, 56, 678,13256,'INS AZ');  
INSERT INTO container VALUES(224,121, 56, 678,13256,'INS SF');  
INSERT INTO container VALUES(225,121, 56, 678,13256,'INS A-Z');  
INSERT INTO container VALUES(226,121, 56, 678,13256,'INS SPL');  
INSERT INTO container VALUES(227,121, 56, 678,13256,'INS Safi');  
INSERT INTO container VALUES(228,121, 56, 678,13256,'INS Bare');  
INSERT INTO container VALUES(229,121, 56, 678,13256,'INS Subagle');  
INSERT INTO container VALUES(230,121, 56, 678,13256,'INS Nuur');

**4.** SELECT name, displacement, captain, crew, home\_port, year  
FROM shipping;  
  
SELECT name, city, country  
FROM ports;  
  
SELECT container\_id, height, width, length, weight, ship\_id  
FROM containers;  
  
SELECT name, displacement, captain, crew, home\_port, year  
FROM shipping  
JOIN ports ON shipping.home\_port = ports.name;  
  
SELECT name, displacement, captain, crew, home\_port, year  
FROM shipping  
JOIN ports ON shipping.home\_port = ports.name  
WHERE ports.country = "United States";  
  
SELECT name, displacement, captain, crew, home\_port, year  
FROM shipping  
JOIN ports ON shipping.home\_port = ports.name  
WHERE ports.country = "United States"  
AND ports.city = "New York";  
  
SELECT container\_id, height, width, length, weight, ship\_id  
FROM containers  
JOIN shipping ON containers.ship\_id = shipping.name;  
  
SELECT container\_id, height, width, length, weight, ship\_id  
FROM containers  
JOIN shipping ON containers.ship\_id = shipping.name  
WHERE shipping.captain = "Jean-Luc Picard";  
  
SELECT container\_id, height, width, length, weight, ship\_id  
FROM containers  
JOIN shipping ON containers.ship\_id = shipping.name  
WHERE shipping.captain = "Jean-Luc Picard"  
AND shipping.name = "USS Enterprise-E";  
  
SELECT name, displacement, captain, crew, home\_port, year, COUNT(container\_id) AS "Number of Containers"  
FROM shipping  
JOIN containers ON shipping.name = containers.ship\_id  
GROUP BY name;  
  
SELECT name, displacement, captain, crew, home\_port, year, COUNT(container\_id) AS "Number of Containers"  
FROM shipping  
JOIN containers ON shipping.name = containers.ship\_id  
GROUP BY name  
HAVING COUNT(container\_id) > 50;  
  
SELECT name, displacement, captain, crew, home\_port, year, COUNT(container\_id) AS "Number of Containers"  
FROM shipping  
JOIN containers ON shipping.name = containers.ship\_id  
GROUP BY name  
HAVING COUNT(container\_id) > 50  
ORDER BY COUNT(container\_id) DESC;  
  
SELECT name, city, country, COUNT(ship\_id) AS "Number of Ships"  
FROM ports  
JOIN shipping ON ports.name = shipping.home\_port  
GROUP BY name, city, country  
HAVING COUNT(ship\_id) > 1;  
  
SELECT name, city, country, COUNT(ship\_id) AS "Number of Ships"  
FROM ports  
JOIN shipping ON ports.name = shipping.home\_port  
GROUP BY name, city, country  
HAVING COUNT(ship\_id) > 1  
ORDER BY COUNT(ship\_id) DESC;  
  
SELECT ship\_id, COUNT(container\_id) AS "Number of Containers"  
FROM containers  
GROUP BY ship\_id  
ORDER BY COUNT(container\_id) DESC  
LIMIT 1;  
  
SELECT ship\_id, COUNT(container\_id) AS "Number of Containers"  
FROM containers  
GROUP BY ship\_id  
ORDER BY COUNT(container\_id)  
LIMIT 1;  
  
SELECT SUM(height\*width\*length) AS "Volume"  
FROM containers;  
  
SELECT AVG(height\*width\*length) AS "Average Volume"  
FROM containers;  
  
SELECT height\*width\*length AS "Volume"  
FROM containers  
WHERE ship\_id = "USS Enterprise";