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Data Management

Final Project

6/14/2023

**Prompt 1 – Create the Schema/Database**

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**Prompt 2 – Create Tables**

CREATE TABLE users (

userid INT AUTO\_INCREMENT,

name VARCHAR(255),

username VARCHAR(20),

address VARCHAR(255),

city VARCHAR(255),

state VARCHAR(2),

zip INT(5),

password VARCHAR(255),

PRIMARY KEY (userid)

);

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CREATE TABLE locations (

itemid INT AUTO\_INCREMENT,

type INT,

description VARCHAR(255),

lng FLOAT,

lat FLOAT,

PRIMARY KEY (itemid)

);

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CREATE TABLE photographs (

photoid INT AUTO\_INCREMENT,

locationid INT,

PRIMARY KEY (photoid)

);

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**Prompt 3 – Alter Tables**

ALTER TABLE users MODIFY userid INT NOT NULL;

ALTER TABLE locations MODIFY type INT NOT NULL;

ALTER TABLE locations MODIFY description VARCHAR(255) NOT NULL;

ALTER TABLE locations MODIFY lng FLOAT NOT NULL;

ALTER TABLE locations MODIFY lat FLOAT NOT NULL;

ALTER TABLE users MODIFY name VARCHAR(255) NOT NULL;

ALTER TABLE users MODIFY username VARCHAR(20) NOT NULL;

ALTER TABLE users MODIFY password VARCHAR(255) NOT NULL;

ALTER TABLE photographs MODIFY photoid INT NOT NULL;

ALTER TABLE photographs MODIFY locationid INT NOT NULL;

**Prompt 4 – Create Index**

CREATE UNIQUE INDEX id ON users (userid);

CREATE UNIQUE INDEX id ON photographs (photoid);

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**Prompt 5 – Enter Data**

INSERT INTO users VALUES ('Bonnie Buntcake', 'bbunt', '6709 Wonder Street', 'Wonderbread', 'OH', 46105, 'eclectic'),

(‘Sam Smarf’, ‘ssmarf’, ‘356 A Street’, ‘Beefy’, ‘PA’, 19943, ‘swimming’),

(‘Wendy Grog’, ‘wgrog’, ‘900 Star Street’, ‘Mary’, ‘MD’, 21340, ‘wells’),

(‘Joe Jogger’, ‘jjogger’, ‘183713 N North Street’, ‘Norther’, ‘WV’, 51423, ‘tarts’);

SELECT \* FROM users;

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**Prompt 6 – Count Rows**

SELECT count(\*) FROM users;

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**Prompt 7 – Add Column**

ALTER TABLE photographs ADD COLUMN userid INT AFTER locationid;

SELECT \* FROM photographs;

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**Prompt 8 – Issue with New Column**

The problem with the new column is that we did not make it NOT NULL. There cannot be a photograph without a photographer, so it is important to add this constraint to the column. Additionally, the userid column in the photographs table is a foreign key that references the primary key of the users table. This constraint should also be added because we want to ensure data integrity. Otherwise, we could have a situation where the userid in the photographs table references a user that does not exist in the users table. By adding this constraint, we ensure that only users in our database can be the ones who are associated with a photograph.

ALTER TABLE photographs MODIFY userid INT NOT NULL;

ALTER TABLE photographs ADD FOREIGN KEY (userid) REFERENCES users(userid);

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**Prompt 9 – Location and Photograph Table Updates**

INSERT INTO locations VALUES (1, 'Independence Hall', 794.35, 651.41),

(2, '6709 Wonder Street', 323.41, 412.22),

(1, 'Sunrise', 221.45, 132.43),

(2, '356 A Street', 123.32, 222.43),

(1, 'Mountains', 34.12, 87.89),

(2, '900 Star Street', 1071.9, 206.45),

(1, 'Moonrise', 816.2, 111.2),

(2, '183714 N North Street', 176.11, 11.176);

SELECT \* FROM locations;

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INSERT INTO photographs VALUES (1, 3, 1),

(2, 6, 1),

(3, 2, 3),

(4, 5, 4);

SELECT \* FROM photographs;

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**Prompt 10 – Users**

SELECT name FROM users;

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**Prompt 11 – Who’s Taking Pictures?**

SELECT name FROM users, photographs WHERE users.userid = photographs.userid;

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**Prompt 12 – Unique Names**

SELECT DISTINCT name FROM users, photographs WHERE users.userid = photographs.userid;

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