

Homework: Databases

Problems for homework for the "Software Technologies" course @ Software University
Submit this document as your homework

1. Address Table

You will create a table named 'addresses', insert data, and run a few queries on <https://db-fiddle.com>.

Choose MySQL 8.0 as the engine.

1. **CREATE TABLE** named `addresses`` with the following columns:

- `street_number`
- `street_name`
- `area`
- `town`
- `district`
- `country`
- `continent`
- `isCapital`

```
1 CREATE TABLE address (  
2   id INT PRIMARY KEY AUTO_INCREMENT,  
3   street_number VARCHAR(10),  
4   street_name VARCHAR(100),  
5   area VARCHAR(100),  
6   town VARCHAR(100),  
7   district VARCHAR(100),  
8   country VARCHAR(100),  
9   continent VARCHAR(100),  
10  isCapital BOOLEAN  
11 );
```

2. INSERT records INTO the 'addresses' table and execute the SQL query:

```
INSERT INTO address (street_number, street_name, area, town, district, country, continent, isCapital)
VALUES
('10', 'Main Street', 'Downtown', 'New York City', 'Manhattan', 'United States', 'North America', false),
('25A', 'Elm Avenue', 'West End', 'London', 'Westminster', 'United Kingdom', 'Europe', true),
('7', 'Rue de la Paix', 'Le Marais', 'Paris', 'Ile-de-France', 'France', 'Europe', true),
('1234', 'Oak Lane', 'Green Meadows', 'Los Angeles', 'California', 'United States', 'North America', false),
('42', 'High Street', 'City Center', 'Sydney', 'New South Wales', 'Australia', 'Australia & Oceania', false),
('56B', 'Maple Road', 'Northside', 'Toronto', 'Ontario', 'Canada', 'North America', false),
('9', 'Kaiserstrasse', 'Mitte', 'Berlin', 'Berlin', 'Germany', 'Europe', true),
('17', 'Plaza Mayor', 'Centro', 'Madrid', 'Madrid', 'Spain', 'Europe', true),
('3', 'Piazza San Marco', 'San Marco', 'Venice', 'Veneto', 'Italy', 'Europe', false),
('1001', 'Avenida Paulista', 'Jardins', 'Sao Paulo', 'Sao Paulo', 'Brazil', 'South America', false),
('8/15', 'Princes Street', 'New Town', 'Edinburgh', 'Edinburgh', 'United Kingdom', 'Europe', false),
('27', 'Koningsplein', 'Centrum', 'Amsterdam', 'North Holland', 'Netherlands', 'Europe', true),
('42A', 'Hauptstrasse', 'Mitte', 'Vienna', 'Vienna', 'Austria', 'Europe', true),
('100', 'Collins Street', 'CBD', 'Melbourne', 'Victoria', 'Australia', 'Oceania', false),
('123', 'Rua da Boavista', 'Baixa', 'Porto', 'Porto', 'Portugal', 'Europe', false),
('5', 'Knez Mihailova', 'Stari Grad', 'Belgrade', 'Belgrade', 'Serbia', 'Europe', true),
('9876', 'Ginza', 'Chuo', 'Tokyo', 'Tokyo', 'Japan', 'Asia', true),
('18', 'Connell Street', 'North City', 'Dublin', 'Dublin', 'Ireland', 'Europe', true),
('75C', 'Friedrichstrasse', 'Kreuzberg', 'Berlin', 'Berlin', 'Germany', 'Europe', true),
('22', 'Gran Vía', 'Malasana', 'Madrid', 'Madrid', 'Spain', 'Europe', true);
```

3. Your task is to execute the proper queries in order to get the following results:

! **NOTE:** Create queries for each condition and place a screenshot after each query!

- SELECT all addresses from the 'addresses' table that are located in a capital city.

Your screenshot here...

Schema SQL

```

1 CREATE TABLE addresses (
2   ID INT PRIMARY KEY AUTO_INCREMENT,
3   street_number VARCHAR(10),
4   street_name VARCHAR(100),
5   area VARCHAR(100),
6   town VARCHAR(100),
7   district VARCHAR(100),
8   country VARCHAR(100),
9   continent VARCHAR(100),
10  isCapital BOOLEAN
11 );
12
13 INSERT INTO addresses (street_number, street_name, area, town, district, country,
14   continent, isCapital)

```

Text to DDL

Query SQL

```

1 SELECT * FROM addresses
2 WHERE isCapital = True;

```

Results

Copy as Markdown

Query #1 Execution time: 0.51ms

ID	street_number	street_name	area	town	district	country	continent	isCapital
2	25A	Elm Avenue	West End	London	Westminster	United Kingdom	Europe	1
3	7	Rue de la Paix	Le Marais	Paris	Ile-de-France	France	Europe	1
7	9	Kaiserstrasse	Mitte	Berlin	Berlin	Germany	Europe	1
8	17	Plaza Mayor	Centro	Madrid	Madrid	Spain	Europe	1

- SELECT all addresses from the 'addresses' table that are located in South America.

Your screenshot here...

Schema SQL

```

1 CREATE TABLE addresses (
2   ID INT PRIMARY KEY AUTO_INCREMENT,
3   street_number VARCHAR(10),
4   street_name VARCHAR(100),
5   area VARCHAR(100),
6   town VARCHAR(100),
7   district VARCHAR(100),
8   country VARCHAR(100),
9   continent VARCHAR(100),
10  isCapital BOOLEAN
11 );
12
13 INSERT INTO addresses (street_number, street_name, area, town, district, country,
14   continent, isCapital)

```

Text to DDL

Query SQL

```

1 SELECT * FROM addresses
2 WHERE continent = 'South America';

```

Results

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Query #1 Execution time: 0.54ms

ID	street_number	street_name	area	town	district	country	continent	isCapital
10	1001	Avenida Paulista	Jardins	Sao Paulo	Sao Paulo	Brazil	South America	0

- SELECT all addresses from the 'addresses' table that are located in Europe, but only in NON Capital cities.

Your screenshot here...

Schema SQL

```
1 CREATE TABLE addresses (
2   ID INT PRIMARY KEY AUTO_INCREMENT,
3   street_number VARCHAR(10),
4   street_name VARCHAR(100),
5   area VARCHAR(100),
6   town VARCHAR(100),
7   district VARCHAR(100),
8   country VARCHAR(100),
9   continent VARCHAR(100),
10  isCapital BOOLEAN
11 );
12
13 INSERT INTO addresses (street_number, street_name, area, town, district, country,
14   continent, isCapital)
```

Text to DDL

Query SQL

```
1 SELECT * FROM addresses
2 WHERE continent = 'Europe' AND isCapital = False;
```

Results

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Query #1

Execution time: 0.47ms

ID	street_number	street_name	area	town	district	country	continent	isCapital
9	3	Piazza San Marco	San Marco	Venice	Veneto	Italy	Europe	0
11	8/15	Princes Street	New Town	Edinburgh	Edinburgh	United Kingdom	Europe	0
15	123	Rua da Boavista	Baixa	Porto	Porto	Portugal	Europe	0