

EMU415 DBMS Homework1

AUTHOR

team_yes_sql

First of all connection is established between R studio and our database.

```
library(DBI)
library(RMySQL)
con <- dbConnect(MySQL(), host = "127.0.0.1", port = 3306, user = "root", dbname = "EMU415_yes")
```



TEAM MEMBERS

```
# Retrieve and display team members' information
team_members <- dbGetQuery(con, "SELECT first_name, last_name, student_id FROM team_members")
print(team_members)
```

	first_name	last_name	student_id
1	Cemil	Neşe	21948303
2	Ömer Faruk	Çiftçi	21831151
3	Emre	Gül	21948121
4	Kerem	Kaplan	21948168
5	Beyza	Göktaş	21948102
6	Ahmet Taha	Karakaya	21948192
7	Hatice Nur	Güneş	21948135



Cemil Neşe - 21948303



Ömer Faruk Çiftçi - 21831151



Emre Gül - 21948121



Kerem Kaplan - 21948168



Beyza Göktaş - 21948102



Ahmet Taha Karakaya - 21948192



Hatice Nur Güneş - 21948135

QUESTION 5

- Find the total number of team members

```
SELECT COUNT(*) AS number_of_members FROM team_members;
```

1 records

number_of_members
7

- List team members by age from oldest to youngest.

```
SELECT member_id, first_name, last_name, student_id, age FROM team_members ORDER BY age DESC;
```

7 records

member_id	first_name	last_name	student_id	age
2	Ömer Faruk	Çiftçi	21831151	25
3	Emre	Gül	21948121	24
1	Cemil	Neşe	21948303	22
4	Kerem	Kaplan	21948168	22
5	Beyza	Göktaş	21948102	22
6	Ahmet Taha	Karakaya	21948192	22
7	Hatice Nur	Güneş	21948135	22

- Identify the range of expected graduation years within your team

```
SELECT DISTINCT graduation_year FROM team_members;
```

2 records

graduation_year
2024
2023

- Analyze the distribution of team members across different joining years

```
SELECT COUNT(*) AS joined_2018 FROM team_members WHERE join_year = 2018;
```

1 records

joined_2018
1

```
SELECT COUNT(*) AS joined_2019 FROM team_members WHERE join_year = 2019;
```

1 records

joined_2019
6

QUESTION 6

```
SELECT
    SHA1(CONCAT(
        COUNT(*),
        '-',
        MIN(graduation_year),
        '-',
        AVG(age)
    )) AS team_identifier
FROM
    team_members;
```

1 records

team_identifier

8165b97a6d0aca32fb2464198932d2c437ee9e0d

Cryptographic algorithms like SHA-1 are used in database management for various purposes, such as ensuring data integrity and security. For example, SHA-1 hashes can be computed for sensitive data like passwords before storing them in the database, making it difficult for attackers to recover the original passwords. Additionally, SHA-1 hashes can be used to verify the integrity of data stored in the database, ensuring that it has not been tampered with.