

CSE370 Database Systems: Lab Assignment 1

Objective	Practice basic SQL operations using a single table in MySQL.		
Due Date:	1 Week, submit before next class	Number of Questions:	10

Scenario:

Brac university is hosting an inter-university marathon event. As part of the organizing committee, you need to manage the runner database to track student participants and their performance. All operations will be performed on a single table called **runners**.

Part 1: Understanding the Data

You will use a database called **Marathon_<Your8DigitStudentID>**.

Example:

```
CREATE DATABASE Marathon_12345678;  
USE Marathon_12345678;
```

The marathon organizing committee has collected the following data about student runners:

student_id	student_name	email	distance_covered	time_taken_mins
101	Mikasa Ackerman	mikasa.a@g.bracu.ac.bd	5	35
102	Edward Elric	e.elric@iub.ac.bd	10	59
103	Riza Hawkeye	riza.h@ewu.ac.bd	5	38
104	Bruce Wayne	b.wayne@g.bracu.ac.bd	10	63
105	Peter Parker	p.parker@iub.ac.bd	5	33
106	Alphonse Elric	a.elric@iub.ac.bd	10	55
107	Son Goku	son.goku@g.bracu.ac.bd	5	46
108	Gon Freeccs	gon.f@g.bracu.ac.bd	10	68
109	Tanjiro Kamado	tanjiro.k@g.bracu.ac.bd	5	29
110	Roy Mustang	roy.m@ewu.ac.bd	10	83

Note: The **distance_covered** column is measured in kilometers (Km), and **time_taken_mins** is measured in minutes.

Part 2: Questions

Make sure to execute the queries in the order given, as some queries depend on modifications made in previous steps.

Provide one single query per question!

Write SQL queries to complete the following tasks: [10 * 1 = 10]

- Q1.** Create a table called runners in MySQL with appropriate data types for all columns shown above.
- Q2.** Insert all the given data displayed in the table above into the runners table.
- Q3.** Display all information of runners whose distance_covered is above 6 kilometers.
- Q4.** Display all runners' student_name in uppercase, ordered by their time_taken_mins in descending order.
- Q5.** Change the column name distance_covered to total_distance. The new data type should be DECIMAL(3,1).
- Q6.** Add a new column kmh with data type DECIMAL(3,1) to the table. [kmh represents km per hour]
- Q7.** Update the kmh for each runner using the formula: $(total_distance * 60) / time_taken_mins$
- Q8.** Show the points of each runner along with their student_id, student_name and kmh. Points are calculated using this formula: $(total_distance / 10) * (time_taken_mins / 60) * 100$
- Q9.** Find the student_name of runners whose total_distance is 10 kilometers and time_taken_mins is between 40 to 60 minutes.
- Q10.** Find the student_name of runners who are from Brac University. (Hint: look at the email domain)

Part 3: Submission Instructions

Make a copy of the [submission template](#) in your own Google Drive.

For each task in Part 2:

1. Write the MySQL command in your submission document.
2. Execute the command in XAMPP shell (MySQL command line), take a screenshot showing the command and output, then paste it below the command in your document.
3. Repeat for all 10 tasks.
4. Download your document as PDF.
5. Rename using format: `ID_Name_CSE370_Lab_Sec##_Assignment01_Spring26.pdf`
Example: `12345678_PeterParker_CSE370_Lab_Sec12_Assignment01_Spring26.pdf`
6. Submit via the Google Form in your Discord section channel.