SQL Introduction - Exercises

[1.](#_gjdgxs) Creating a Database and Table 1

[2.](#_30j0zll) Inserting Data 1

[3.](#_3znysh7) Querying Data 1

[4.](#_2et92p0) Updating Data 2

[5.](#_tyjcwt) Deleting Data 2

[6.](#_3dy6vkm) Filtering Rows 2

[7.](#_1t3h5sf) Sorting Results 2

[8.](#_4d34og8) Using Aliases 2

[9.](#_2s8eyo1) Advanced Insertion 2

[10.](#_17dp8vu) View Creation 2

[11.](#_3rdcrjn) Exploration of SQL Functions (Optional) 2

# Creating a Database and Table

Create a database called School.

Inside the database, create a table named Students with the following columns:

* StudentID (INT, Primary Key, Not Null)
* FirstName (VARCHAR(50), Not Null)
* LastName (VARCHAR(50), Not Null)
* Age (INT)
* Grade (VARCHAR(10))

# Inserting Data

Insert at least 5 records into the Students table.

| INSERT INTO Students (StudentID, FirstName, LastName, Age, Grade)  VALUES (1, 'John', 'Doe', 15, '10th'); |
| --- |

# Querying Data

* Write a query to retrieve all columns from the Students table.
* Retrieve only the FirstName and Grade of students whose Age is greater than 14.

# Updating Data

Update the grade of a specific student.

For example:

| UPDATE Students  SET Grade = '11th'  WHERE StudentID = 1; |
| --- |

# Deleting Data

Delete a student record where the StudentID is 3.

Be sure to use the WHERE clause to avoid deleting all rows accidentally.

# Filtering Rows

Write a query to select students with the Grade of '10th'.

Use the BETWEEN operator to find students whose Age is between 14 and 16.

# Sorting Results

Write a query to retrieve all students, sorted by LastName in ascending order.

Modify the query to sort by Age in descending order.

# Using Aliases

Write a query to display FirstName and LastName concatenated as FullName, along with Grade. Use an alias for the concatenated column.

# Advanced Insertion

Create a new table called Graduates with the same structure as Students.

Insert all students from the Students table who have a grade of '12th' into the Graduates table.

# View Creation

Create a view called v\_StudentsByGrade that shows FullName (concatenated FirstName and LastName) and Grade of all students.

# Exploration of SQL Functions (Optional)

Use the COUNT function to determine how many students are in the Students table.

Write a query to find the average Age of students.