**Competency 3 – Modify a basic database**

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**Content**

* Item

**Learning Objectives**

Modify a basic database.

* + Modify the data within MySQL.
  + Modify the table structures used in MySQL.
* Item

**Learning Procedures / Assignments**

**Step 1: Read it**

SQL for MySQL Developers: Read Chapters 17, 20, 21, and 24.

Chapter 21, InnoDB is the default engine from MySQL 5.5.5 onwards.

<https://dev.mysql.com/doc/refman/5.6/en/innodb-default-se.html>

**Step 2: Do it**

When the book has an example for trying out a SQL example, DO IT.

The chapters also have exercises which have answers at the end of each chapter, try these out as time permits.

**Step 3: Practice it**

Homework 4 - Updating Tables

Homework 5 - Changing Tables

Project 1 - Import and Extend a database

**Homework 4**

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**Requirements**

* 1. Use the original Tennis database. Make sure to undo any changes you may have made.
  2. This will change the database so use [ReplaceAndPopulateTennisTables.txt](https://acconline.austincc.edu/bbcswebdav/pid-10070824-dt-content-rid-21360981_1/xid-21360981_1) to restore the database to its original content.
  3. Under Preferences -> SQL Editor you may need to disable ‘Safe Update’ mode.
  4. Execute the following changes to the database. Save the command you created.
     + 1. Add a new penalty to the PENALTIES table; the payment number is 11, this concerns player 44, the payment date was 1985-11-08, and the penalty amount is $100.
       2. Double the amount of all penalties.
       3. Delete the two lowest penalties.
       4. Delete all players who live in the same town as player 57 but keep the data about player 57 (you may need to alias the sub-query (example 17.15) on the town name for 57).
       5. Delete all penalties and matches of player 104, regardless of whether the player appears in both tables.
  5. Submit the following queries as a file using the below name or paste as a text submission. Make sure to include the commands you created from #4.
     1. SELECT \* FROM PENALTIES;
     2. SELECT \* FROM MATCHES;
     3. SELECT \* FROM PLAYERS;
  6. Each update is worth 20% of the homework grade.

YourLastName\_hw4.txt

* Assignment

[**Homework 4 Submit Here**](https://acconline.austincc.edu/webapps/assignment/uploadAssignment?content_id=_10070825_1&course_id=_769848_1&group_id=&mode=view)

Submit the saved results file using the below name or paste as a text submission.

YourLastName\_hw4.txt

**Homework 5**

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**Requirements**

* 1. Use the original Tennis database. Make sure to undo any changes you may have made.
  2. This will change the database so use [ReplaceAndPopulateTennisTables.txt](https://acconline.austincc.edu/bbcswebdav/pid-10070827-dt-content-rid-21360981_1/xid-21360981_1) to restore the database to its original content.Execute the following changes to the database. Save the command you created. HINT: Many of these changes can be done through MySQLWorkbench by clicking on the wrench symbol in the schema window for the table. MySQLWorkbench will then display the SQL code it generates for the changes you have selected using the table editor.
     1. Add a new column called **Founded** of type date to the TEAMS table after the TEAMNO.
     2. Add a new column called **Paid** of type char (1) to the PENALTIES table.
     3. In the PENALTIES table, change the column name AMOUNT to PENALTY\_AMOUNT.
     4. Add a new column called **Date** of type date to the MATCHES table.
     5. In the MATCHES table, change the column name MATCHNO to MATCH. MATCH is a keyword but this can be done.

Submit the following queries as a file using the below name or paste as a text submission. Make sure to include the commands you created.

* + 1. SELECT \* FROM TEAMS;
    2. SELECT \* FROM PENALTIES;
    3. SELECT \* FROM MATCHES;
  1. Each change is worth 20% of the homework grade.

YourLastName\_hw5.txt

* Assignment

[**Homework 5 Submit Here**](https://acconline.austincc.edu/webapps/assignment/uploadAssignment?content_id=_10070828_1&course_id=_769848_1&group_id=&mode=view)

Submit the saved results file using the below name or paste as a text submission.

YourLastName\_hw5.txt

**Project 1**

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**Requirements**

* 1. Import the following database file [city.sql](https://acconline.austincc.edu/bbcswebdav/pid-10070830-dt-content-rid-21360982_1/xid-21360982_1" \o "Click here to open city.sql file" \t "_blank)
  2. If prompted for character set encoding type, select latin1
  3. Add to the database the following table and data:
     1. Add a EDUCATION table with the following columns; country code as a primary key, literacy rate, male literacy rate, female literacy rate
     2. Add data for the following countries

AFG, 38, 52, 24

DEU, 99, 99, 99

NLD, 99, 99, 99

USA, 99, 99, 99

* 1. Execute the following commands and save the results.
     1. Display the languages of the United States
     2. Display the cities of Germany and the population of each city
     3. Display the female literacy rate of all countries
  2. Submit the saved results file using the below name or paste as a text submission.
     1. Include the results of the queries and the queries themselves.
  3. Creating the database, adding the table with data, and each query is each worth 20% of the homework grade.

YourLastName\_p1.txt

* Assignment

[**Project 1 Submit Here**](https://acconline.austincc.edu/webapps/assignment/uploadAssignment?content_id=_10070831_1&course_id=_769848_1&group_id=&mode=view)

Submit the saved results file using the below name or paste as a text submission.

YourLastName\_p1.txt