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Module Three Lab

1. **Update the name of the Branches table**that you created in the previous lab to say "Department".  
   * Use an ALTER statement to successfully RENAME the "Branches" table to "Department".
   * Capture these outputs in a screenshot to validate that you’ve successfully completed this step.

A screenshot of a computer program

Description automatically generated

1. **Insert fields to the Department table**so that you’ll be able to perform joins on them.  
   * INSERT INTO Department VALUES  
     (1, 'Accounting'),  
     (2, 'Human Resources'),  
     (3, 'Information Systems'),  
     (4, 'Marketing');
   * Write a SELECT statement for this table to prove this step, and validate that it ran correctly with a screenshot.

A screenshot of a computer

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A screenshot of a computer program

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(Added screenshot for prove of my own SQL environment.)

1. Now, **perform joins between the Department and Employee tables and show results** for how many employees work in each one of the four departments. This will only provide information on the records that are already there.  
   * Department 1 = Accounting  
     1. Command: SELECT First\_Name, Last\_Name, Department.Department\_Name FROM Employee INNER JOIN Department ON  
        Employee.Department\_ID = Department.Department\_ID WHERE Employee.Department\_ID = 1;
   * Using SELECT statements similar to the one above, **perform joins to produce results** for the following tables:  
     1. Department 2 = Human Resources
     2. Department 3 = Information Systems
     3. Department 4 = Marketing
   * Capture the results of these joins and validate your work by providing a screenshot. You should have the same number of records as you do employees.

A screenshot of a computer

Description automatically generated

A computer screen shot of a black screen

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1. **Populate the Employee table with**information for ten **new employees.**  
   * Give them unique names and include attributes for **all** necessary fields. (Note: Please reference attributes from the lab in Module Two. Department ID values must be between 1 and 4.)

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1. **Perform a join across the Employee and Department Tables** for each of the four departments. New and existing records should be displayed in the results.  
   * Take a screenshot to capture the updated results that the Employee and Department joins show to validate that they have run correctly. You should have the same number of records as you do employees.
2. **Identify the resultant outputs** of the commands that you’ve written:  
   * How many records are returned for employees in each department?

A screenshot of a computer

Description automatically generated

1. **Create a CSV file**that contains only the records of employees in Human Resources and Information Systems. If you run this query multiple times, be sure to use a different file name each time. MySQL will not overwrite an existing file.  
   * Enter the command listed below.  
     1. Command: select First\_Name, Last\_Name, Department.Department\_Name from Employee inner join Department on Employee.Department\_ID = Department.Department\_ID where Employee.Department\_ID = 3 OR Employee.Department\_ID = 2 into outfile'/home/codio/workspace/HRandIS-Employees.csv' FIELDS TERMINATED BY',' LINES TERMINATED BY '\r\n';
   * Print the file output to the screen.  
     1. You’ll need to type the word **quit** after your MySQL prompt and then press **Enter** to exit to the Linux shell. Do not exit the virtual lab environment itself.
     2. Next, print the output of your file to the screen by following these steps:
        1. Type pwd and press **Enter**, then type ls and press **Enter** again. This will list your files.
        2. Now, type cat HRandIS-Employees.csv and press **Enter**.
        3. Capture these outputs in a screenshot to validate that you’ve successfully completed this step.

A screenshot of a computer screen

Description automatically generated

1. **Reflection**: Provide detailed insight on the prompts below by explaining your process along with how and why it ultimately worked.  
   * **Process**  
     1. **Explain**how **the joins** you used in this assignment worked.

**The joins worked by looking up the information from both tables. Using the employee and department tables. Once both tables are selected any specific department can be looked at.**

* + 1. **Describe**whythe **commands**you used were able to retrieve the Department table when you selected the Department name.

The commands used worked because they are specifically indicating where the information needs to be retrieved. Like the employee table and department table.

* + File creation and extraction  
    1. **Identify** how many **records** are in the file when you write the records of your query to a CSV file.

**8 records are shown on the CSV file.**

* + 1. **Explain**, in detail, the process of **extracting data** to a flat file.

**Extracting the data to a flat file consists of selecting the information on the employees like the first\_name, last\_name, and department to use an inner join. Using the inner join we can select the department with the department ID. Once both departments are selected we can output the file as HRandIS-Employee.csv. Doing this shows the information requested in an easier format to read.**