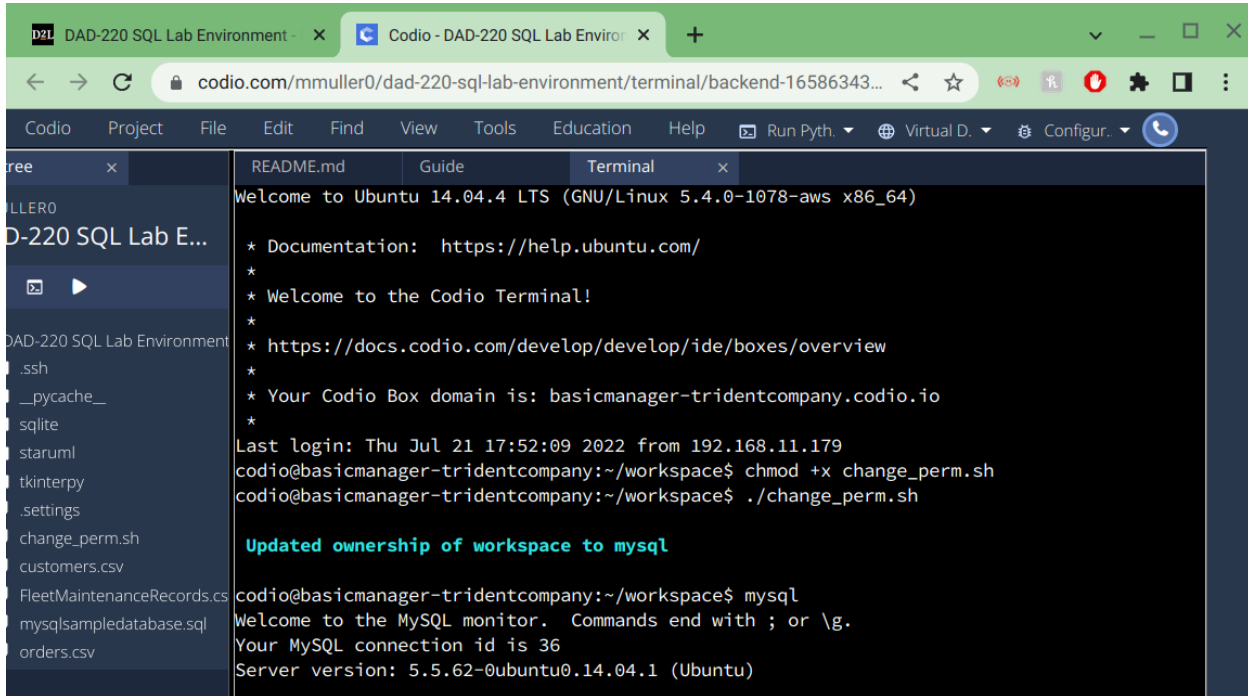


3-2 Lab: Table Joins



```

Welcome to Ubuntu 14.04.4 LTS (GNU/Linux 5.4.0-1078-aws x86_64)

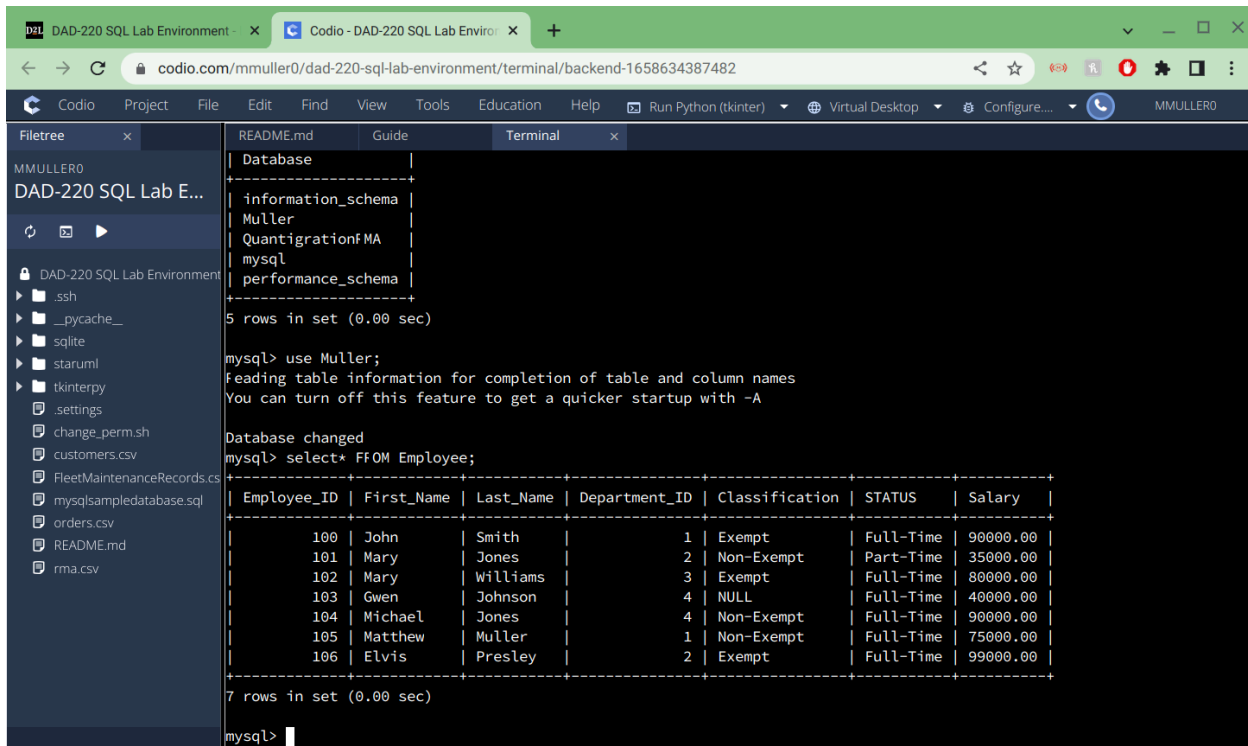
 * Documentation:  https://help.ubuntu.com/
 *
 * Welcome to the Codio Terminal!
 *
 * https://docs.codio.com/develop/develop/ide/boxes/overview
 *
 * Your Codio Box domain is: basicmanager-tridentcompany.codio.io
 *

Last login: Thu Jul 21 17:52:09 2022 from 192.168.11.179
codio@basicmanager-tridentcompany:~/workspace$ chmod +x change_perm.sh
codio@basicmanager-tridentcompany:~/workspace$ ./change_perm.sh

Updated ownership of workspace to mysql

codio@basicmanager-tridentcompany:~/workspace$ mysql
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 36
Server version: 5.5.62-0ubuntu0.14.04.1 (Ubuntu)

```



```

mysql> use Muller;
Feeding table information for completion of table and column names
You can turn off this feature to get a quicker startup with -A

Database changed
mysql> select* FROM Employee;
+-----+-----+-----+-----+-----+-----+-----+
| Employee_ID | First_Name | Last_Name | Department_ID | Classification | STATUS | Salary |
+-----+-----+-----+-----+-----+-----+-----+
| 100 | John | Smith | 1 | Exempt | Full-Time | 90000.00 |
| 101 | Mary | Jones | 2 | Non-Exempt | Part-Time | 35000.00 |
| 102 | Mary | Williams | 3 | Exempt | Full-Time | 80000.00 |
| 103 | Gwen | Johnson | 4 | NULL | Full-Time | 40000.00 |
| 104 | Michael | Jones | 4 | Non-Exempt | Full-Time | 90000.00 |
| 105 | Matthew | Muller | 1 | Non-Exempt | Full-Time | 75000.00 |
| 106 | Elvis | Presley | 2 | Exempt | Full-Time | 99000.00 |
+-----+-----+-----+-----+-----+-----+-----+

7 rows in set (0.00 sec)

mysql>

```

DAD-220 SQL Lab Environment - x Codio - DAD-220 SQL Lab Environ x +

codio.com/mmuller0/dad-220-sql-lab-environment/terminal/backend-1658634387482

Codio Project File Edit Find View Tools Education Help Run Pyth. Virtual D. Configur. MMULLER0

Filetree x

MMULLER0
DAD-220 SQL Lab E...

DAD-220 SQL Lab Environment
ssh
__pycache__
sqlite
staruml

README.md Guide Terminal x

```
105 | Matthew | Muller | 1 | Non-Exempt | Full-Time | 75000.00
106 | Elvis | Presley | 2 | Exempt | Full-Time | 99000.00
-----+-----+-----+-----+-----+-----+-----+
7 rows in set (0.00 sec)

mysql> ALTER TABLE Branches FENAME Department;
Query OK, 0 rows affected (0.02 sec)

mysql>
```

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Filetree x

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ssh
__pycache__
sqlite
staruml
tkinterpy
.settings
change_perm.sh
customers.csv
FleetMaintenanceRecords.cs
mysqlsampledatabase.sql
orders.csv
README.md

README.md Guide Terminal x

```
mysql> INSERT INTO Department VALUES
-> (1, 'Accounting'),
-> (2, 'Human Resources'),
-> (3, 'Information Systems'),
-> (4, 'Marketing');
Query OK, 4 rows affected (0.02 sec)
Records: 4 Duplicates: 0 Warnings: 0

mysql> select* FROM Department;
-----+-----+-----+
| Department_ID | Department_Name |
-----+-----+-----+
| 1 | Accounting |
| 2 | Human Resources |
| 3 | Information Systems |
| 4 | Marketing |
-----+-----+-----+
4 rows in set (0.00 sec)

mysql>
```

DAD-220 SQL Lab Environment - xCodio - DAD-220 SQL Lab Environo x

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DAD-220 SQL Lab Environment

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📁staruml

📁tkinterpy

📄.settings

📄change_perm.sh

📄customers.csv

📄FleetMaintenanceRecords.cs

📄mysqlsampledatabse.sql

📄orders.csv

📄README.md

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README.mdGuideTerminal x

4 rows in set (0.00 sec)

mysql> 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;

First_Name	Last_Name	Department_Name
John	Smith	Accounting
Matthew	Muller	Accounting

2 rows in set (0.00 sec)

mysql> SELECT First_Name, Last_Name, Department.Department_Name FROM Employee INNER JOIN Department ON Employee.Department_ID = Department.Department_ID WHERE Employee.Department_ID = 2;

First_Name	Last_Name	Department_Name
Mary	Jones	Human Resources
Elvis	Presley	Human Resources

2 rows in set (0.00 sec)

mysql> 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;

DAD-220 SQL Lab Environment - xCodio - DAD-220 SQL Lab Environo x

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DAD-220 SQL Lab Environment

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📁sqlite

📁staruml

📁tkinterpy

📄.settings

📄change_perm.sh

📄customers.csv

📄FleetMaintenanceRecords.cs

📄mysqlsampledatabse.sql

📄orders.csv

📄README.md

📄rma.csv

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First_Name	Last_Name	Department_Name
Mary	Jones	Human Resources
Elvis	Presley	Human Resources

2 rows in set (0.00 sec)

mysql> 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;

First_Name	Last_Name	Department_Name
Mary	Williams	Information Systems

1 row in set (0.00 sec)

mysql> SELECT First_Name, Last_Name, Department.Department_Name FROM Employee INNER JOIN Department ON Employee.Department_ID = Department.Department_ID WHERE Employee.Department_ID = 4;

First_Name	Last_Name	Department_Name
Gwen	Johnson	Marketing
Michael	Jones	Marketing

2 rows in set (0.00 sec)

```
mysql> INSERT INTO Employee
-> VALUES (107, 'Brad', 'Pitt', 3, 'Exempt', 'Part-Time', 85000);
Query OK, 1 row affected (0.02 sec)

mysql> INSERT INTO Employee
-> VALUES (108, 'Sandra', 'Bullock', 2, 'Non-Exempt', 'Full-Time', 97000);
Query OK, 1 row affected (0.01 sec)

mysql> INSERT INTO Employee
-> VALUES (109, 'Matt', 'Damon', 4, 'Exempt', 'Full-Time', 56000);
Query OK, 1 row affected (0.01 sec)

mysql> INSERT INTO Employee
-> VALUES (110, 'Margot', 'Robbie', 1, 'Exempt', 'Full-Time', 98000);
Query OK, 1 row affected (0.02 sec)

mysql> INSERT INTO Employee
-> VALUES (111, 'Jackie', 'Moon', 3, 'Non-Exempt', 'Part-Time', 65000);
Query OK, 1 row affected (0.02 sec)

mysql> INSERT INTO Employee
-> VALUES (112, 'Saurabh', 'Puri', 1, 'Exempt', 'Full-Time', 99000);
Query OK, 1 row affected (0.02 sec)

mysql> INSERT INTO Employee
-> VALUES (113, 'Joseph', 'Akturk', 4, 'Non-Exempt', 'Part-Time', 72000);
Query OK, 1 row affected (0.02 sec)

mysql> INSERT INTO Employee
-> VALUES (114, 'Tyrone', 'Biggums', 2, 'Non-Exempt', 'Full-Time', 22000);
Query OK, 1 row affected (0.01 sec)

mysql> INSERT INTO Employee
-> VALUES (115, 'Bruce', 'Wayne', 3, 'Exempt', 'Part-Time', 95000);
Query OK, 1 row affected (0.01 sec)
```

```
-> VALUES (115, 'Bruce', 'Wayne', 3, 'Exempt', 'Part-Time', 95000);
Query OK, 1 row affected (0.01 sec)

mysql> INSERT INTO Employee
-> VALUES (116, 'Bryanna', 'Hatice', 2, 'Non-Exempt', 'Full-Time', 73000);
Query OK, 1 row affected (0.01 sec)

mysql>
```

The screenshot shows a Codio terminal window with a file explorer on the left and a terminal on the right. The file explorer shows a project named 'DAD-220 SQL Lab E...' with various files and folders. The terminal displays a MySQL query and its results.

```
mysql> SELECT First_Name, Last_Name, Department.Department_Name FROM Employee INNER JOIN Department
ON Employee.Department_ID = Department.Department_ID WHERE Employee.Department_ID = 2;
```

First_Name	Last_Name	Department_Name
John	Smith	Accounting
Matthew	Muller	Accounting
Margot	Robbie	Accounting
Saurabh	Puri	Accounting

4 rows in set (0.00 sec)

```
mysql> SELECT First_Name, Last_Name, Department.Department_Name FROM Employee INNER JOIN Department
ON Employee.Department_ID = Department.Department_ID WHERE Employee.Department_ID = 2;
```

First_Name	Last_Name	Department_Name
Mary	Jones	Human Resources
Elvis	Presley	Human Resources
Sandra	Bullock	Human Resources
Tyrone	Biggums	Human Resources
Bryanna	Hatice	Human Resources

5 rows in set (0.00 sec)

The screenshot shows a Codio terminal window with a file explorer on the left and a terminal on the right. The file explorer shows a project named 'DAD-220 SQL Lab E...' with various files and folders. The terminal displays a MySQL query and its results.

```
mysql> 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;
```

First_Name	Last_Name	Department_Name
Mary	Williams	Information Systems
Brad	Pitt	Information Systems
Jackie	Moon	Information Systems
Bruce	Wayne	Information Systems

4 rows in set (0.00 sec)

```
mysql> SELECT First_Name, Last_Name, Department.Department_Name FROM Employee INNER JOIN Department
ON Employee.Department_ID = Department.Department_ID WHERE Employee.Department_ID = 4;
```

First_Name	Last_Name	Department_Name
Gwen	Johnson	Marketing
Michael	Jones	Marketing
Matt	Damon	Marketing
Joseph	Akturk	Marketing

4 rows in set (0.00 sec)

The Accounting, Information Systems, and Marketing Departments all have 4 employees while the Human Resources Department has 5 employees.

A screenshot of a Codio IDE terminal window. The browser address bar shows 'codio.com/mmuller0/dad-220-sql-lab-environment/terminal/backend-1658634387482'. The terminal interface has a dark theme. On the left is a file tree for 'DAD-220 SQL Lab E...' showing files like .guides, .ssh, __pycache__, sqlite, staruml, tkinterpy, .codio, .settings, change_perm.sh, customers.csv, FleetMaintenanceRecords.cs, HRandIS-Employees.csv, mysqlsampledatabase.sql, orders.csv, and README.md. The terminal window shows a MySQL prompt where a query was executed: 'mysql> select First_Name, Last_Name, Department.Department_Name from yee.Department_ID = 3 OR Employee.Department_ID = 2 into outfile '/home/codio/workspace/HRandIS-Employees.csv' mysql> quit'. The output shows 9 rows affected. Below the query, the user runs 'pwd' (showing ~/workspace), 'ls' (listing files like change_perm.sh, mysqlsampledatabase.sql, rma.csv, customers.csv, orders.csv, sqlite, FleetMaintenanceRecords.csv, __pycache__, staruml, HRandIS-Employees.csv, README.md, tkinterpy), and 'cat HRandIS-Employees.csv' (displaying employee records for Human Resources and Information Systems departments).

Reflection

- **Process**

1. **Explain** how the **joins** you used in this assignment worked.

In this project I utilized inner joins. Inner joins work by selecting the records that have matching values in both tables. In this assignment, the records were chosen based on matching Department_ID values.

2. **Describe** why the **commands** you used were able to retrieve the Department table when you selected the Department name.

They were connected and compared using the ON clause for the Department_ID column that the two tables share. This clause specifies the join columns.

- **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.

9 Employee records were written to the CSV file. 5 from the Human Resources Department and 4 from the Information Systems Department.

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

The process of extracting data to a flat file begins with a SELECT statement that requests the information desired for the file. In this assignment, this statement included the join of matching rows from the Employee and Department tables. By using INTO OUTFILE, I was able to specify the location and type of file that the data was extracted to.