




**Department of Electrical,
Computer, & Biomedical Engineering**
Faculty of Engineering
& Architectural Science

Course Title:	COE
Course Number:	692
Semester/Year (e.g.F2016)	W2024

Instructor:	Faezeh Ehsan
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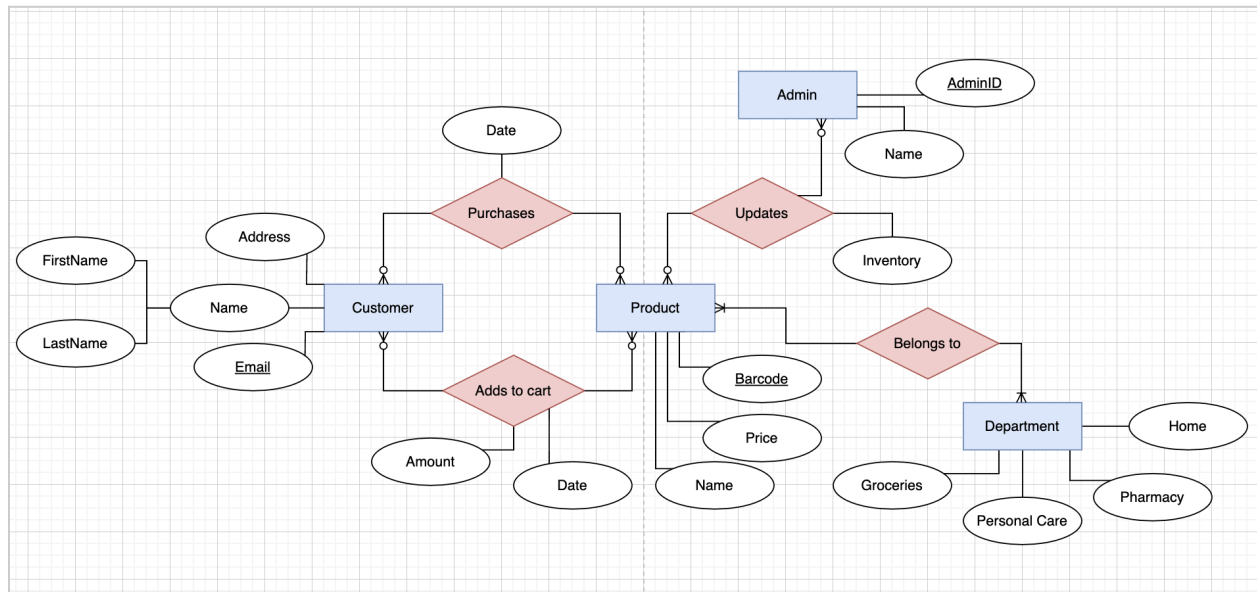
<i>Assignment/Lab Number:</i>	Lab 3
<i>Assignment/Lab Title:</i>	

<i>Submission Date:</i>	Feb 23rd, 2024
<i>Due Date:</i>	Feb 25th, 2024

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*By signing above you attest that you have contributed to this written lab report and confirm that all work you have contributed to this lab report is your own work. Any suspicion of copying or plagiarism in this work will result in an investigation of Academic Misconduct and may result in a "0" on the work, an "F" in the course, or possibly more severe penalties, as well as a Disciplinary Notice on your academic record under the Student Code of Academic Conduct, which can be found online at: <https://www.torontomu.ca/content/dam/senate/policies/pol60.pdf>

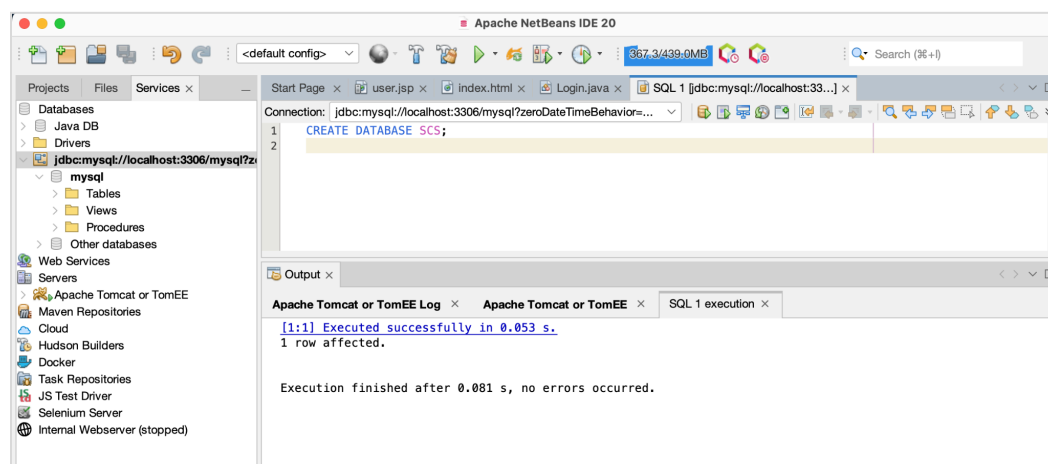
ER Diagram:



Description:

This ER diagram has five entities: Customer, Product, Admin and Department. There is a mandatory one-to-many relationship between Product and Department, which means a product can belong to only one department and a department must have one or more products. Products have a barcode, and price and belong to a department. The departments include Groceries, Personal Care, Home and Pharmacy. A customer has a name (including first name and last name), address, email, and purchases. A customer can also add to cart, which is an attribute relationship with Product. An admin member can update the inventory of the products that the customers purchase. There are two different relationships between a customer and a product: First: an optional many-to-many Purchases relationship, i.e., a customer can purchase zero to many products and a product can be purchased by zero or more customers (on different dates). Second, an optional many-to-many Add-to-cart relationship, i.e., a customer can add zero to many products to their cart and a product can be added to zero to many carts. There is also a one-to-many relationship between Admin and Inventory, which means an admin can update one or more inventories and an inventory can only be updated by one admin.

SQL Code and Tables:



Customer Table:

The screenshot shows the Apache NetBeans IDE 20 interface. On the left, the 'Services' tab is active, showing a tree view of the database 'jdbc:mysql://localhost:3306/mysql?z'. Under 'Tables', the 'Customer' table is highlighted. The main editor displays the SQL script for creating the 'Customer' table:

```
1 CREATE TABLE Customer (  
2   ID INT PRIMARY KEY,  
3   FirstName VARCHAR(50),  
4   LastName VARCHAR(50),  
5   Address VARCHAR(255),  
6   Email VARCHAR(100) UNIQUE );  
7
```

The 'Output' tab at the bottom shows the execution results:

```
Apache Tomcat or TomEE Log  Apache Tomcat or TomEE  Run (lab2)  SQL 1 execution  x  
[1:1] Executed successfully in 0.015 s.  
no rows affected.  
  
Execution finished after 0.018 s, no errors occurred.
```

Product Table:

The screenshot shows the Apache NetBeans IDE 20 interface. On the left, the 'Services' tab is active, showing a tree view of the database 'jdbc:mysql://localhost:3306/mysql?z'. Under 'Tables', the 'Product' table is highlighted. The main editor displays the SQL script for creating the 'Product' table:

```
1 CREATE TABLE Product (  
2   barcode INT PRIMARY KEY,  
3   Name VARCHAR(100),  
4   Price DECIMAL(6,2)  
5 );  
6  
7
```

The 'Output' tab at the bottom shows the execution results:

```
Apache Tomcat or TomEE Log  Apache Tomcat or TomEE  Run (lab2)  SQL 1 execution  x  
no rows affected.  
  
Execution finished after 0.018 s, no errors occurred.  
  
[1:1] Executed successfully in 0.027 s.  
no rows affected.
```

Purchases Table:

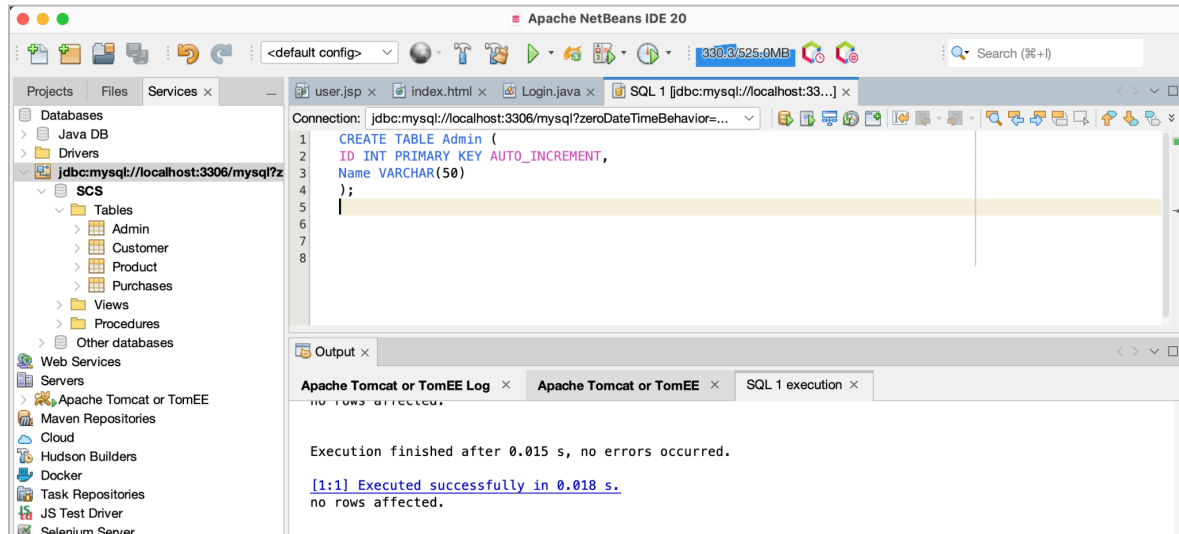
The screenshot shows the Apache NetBeans IDE 20 interface. On the left, the 'Services' tab is active, showing a tree view of the database 'jdbc:mysql://localhost:3306/mysql?z'. Under 'Tables', the 'Purchases' table is highlighted. The main editor displays the SQL script for creating the 'Purchases' table:

```
1 CREATE TABLE Purchases (  
2   ID INT PRIMARY KEY AUTO_INCREMENT,  
3   CustomerID INT,  
4   ProductBarcode INT,  
5   Amount INT,  
6   Date DATE,  
7   FOREIGN KEY (CustomerID) REFERENCES Customer(ID),  
8   FOREIGN KEY (ProductBarcode)  
9     REFERENCES Product(Barcode)  
10 );  
11
```

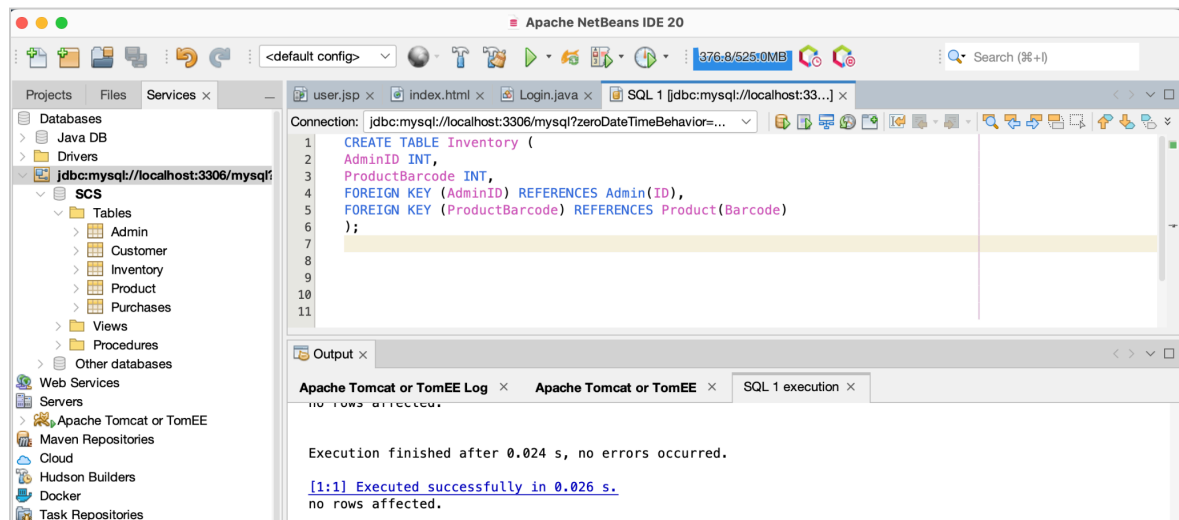
The 'Output' tab at the bottom shows the execution results:

```
Apache Tomcat or TomEE Log  Apache Tomcat or TomEE  SQL 1 execution  x  
no rows affected.  
  
Execution finished after 0.034 s, no errors occurred.  
  
[1:1] Executed successfully in 0.013 s.  
no rows affected.
```

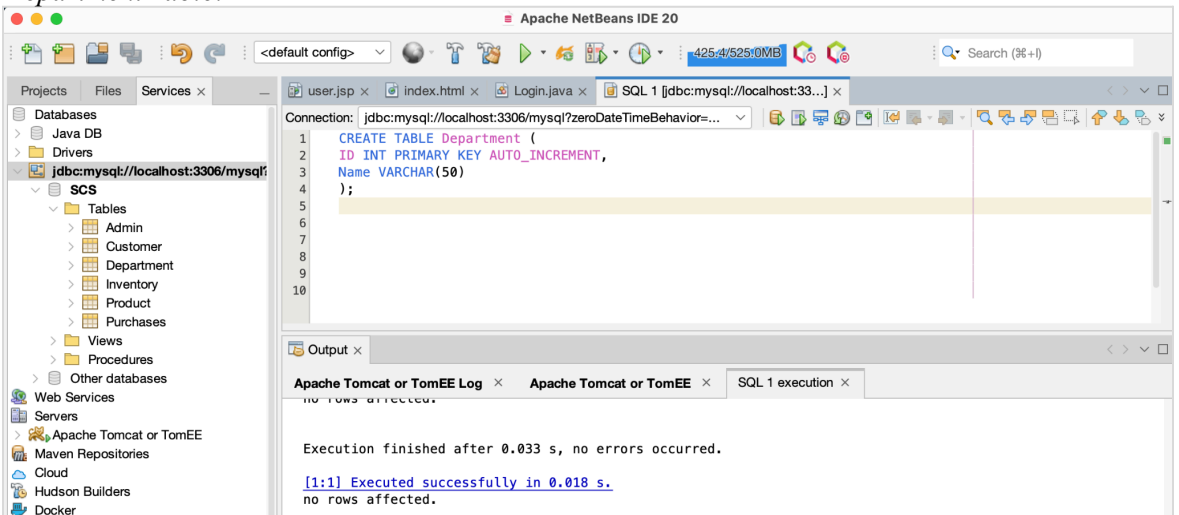
Admin Table:



Inventory Table:



Department Table:



Created Tables:

