FinTech Lab Week 2

**Q Create a bank database.**

Ans:

The following bank database consists of three tables:

* Customer
* Credit
* Debit

The customer table has the following attributes:

* Customer\_ID (integer value and primary key)
* Customer\_name (varchar value)
* Address (varchar value)
* Phone\_no (integer value)
* Email (varchar value)

Insert the rows into the table.

The SQL queries will be like so:

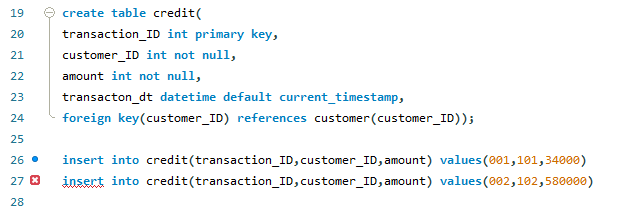


The credit table has the following attributes:

* Transaction\_ID (integer value and primary key)
* Customer\_ID (integer value and foreign key referencing customer table)
* Amount (integer value)
* Tansacton\_dt (datetime value)

Insert the rows into the table.

The SQL queries will be like so:

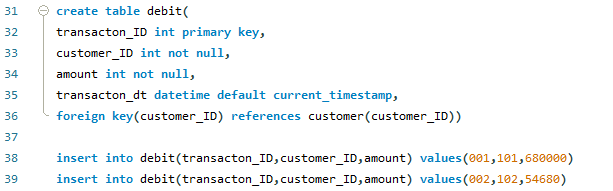


The debit table has the following attributes:

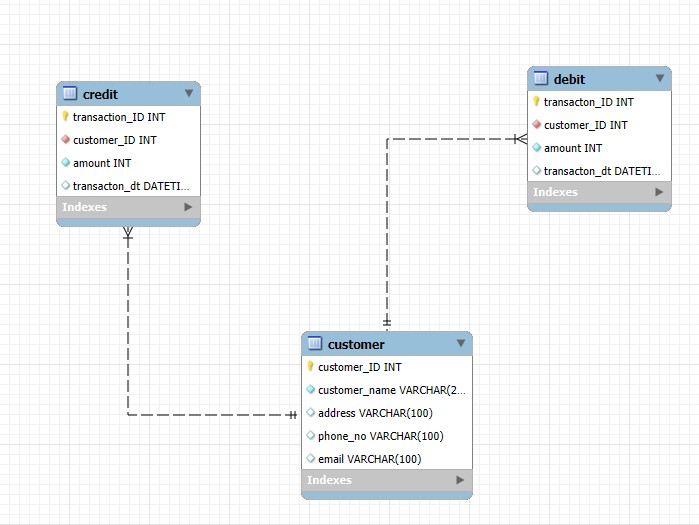
* Transaction\_ID (integer value and primary key)
* Customer\_ID (integer value and foreign key referencing customer table)
* Amount (integer value)
* Transaction\_dt (datetime value)

Insert rows into table.

The SQL queries will be like so:



The ERD for the above tables Customer, Credit and Debit in the Bank database is as follows:



**Q Create a Cricket Database.**

Ans

The following Cricket database consists of three tables:

* Players
* Batting
* Bowling

The players table has the following attributes:

* Player\_ID
* Player\_name
* Team\_name

Insert values into the table.

The SQL queries will be as follows:

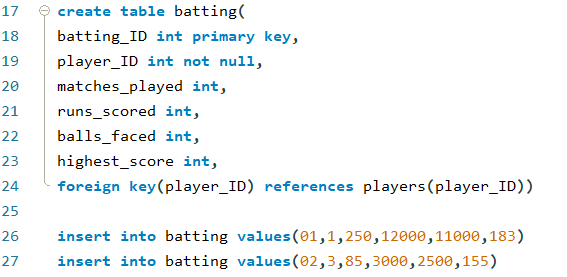


The batting table has the following attributes:

* Batting\_ID
* Player\_ID
* Matches\_played
* Runs\_scored
* Balls\_faced
* Highest\_score

Insert values into the table.

The SQL queries will be as follows:

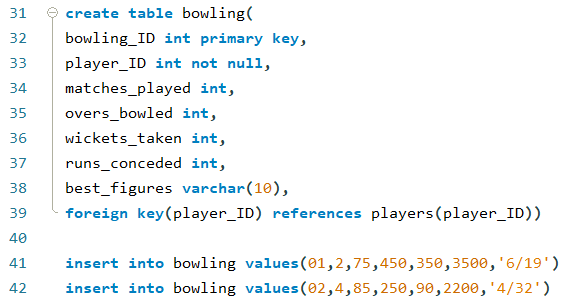


The bowling table has the following attributes:

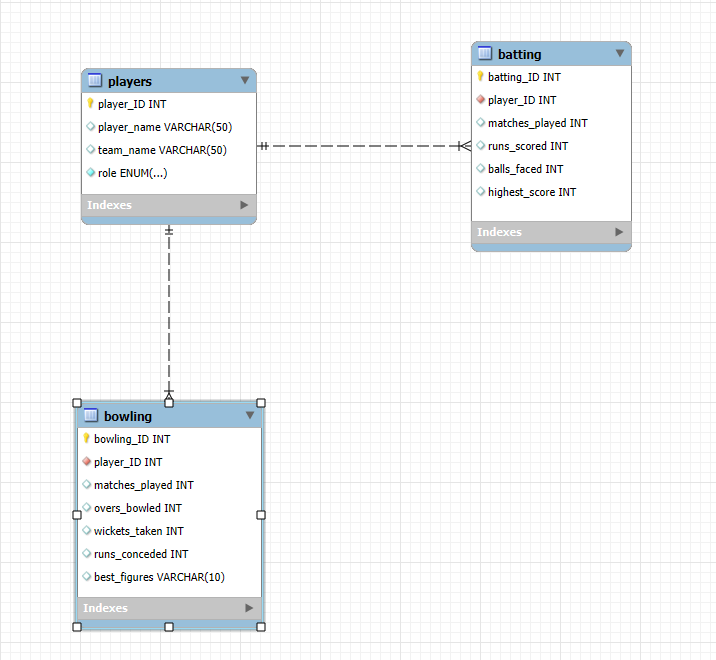
* Bowling\_ID
* Player\_ID
* Matches\_played
* Overs\_bowled
* Wickets\_taken
* Runs\_conceded
* Best\_figures

Insert values into the table.

The SQL queries are as follows:



The ERD for the tables Players, Batting and Bowling in the Cricket DB will be:



**Q Create a supermarket database with the required tables.**

Ans:

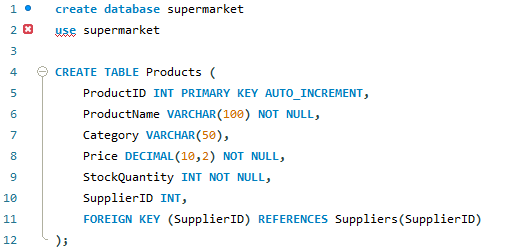
The following supermarket DB consists of the following tables:

* Products
* Suppliers
* Customers
* Employees
* Orders
* OrderDetails
* Payments

The Products table has the following attributes:

* productID
* productName
* category
* price
* stockQuantity
* supplierID (foreign key that references supplierID from supplier table)

create and populate the table:

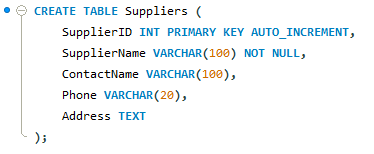


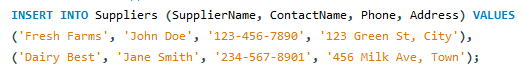


Supplier table has the following attributes:

* supplierID
* supplierName
* contactName
* phone
* address

create and populate the table:

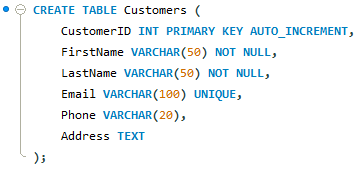


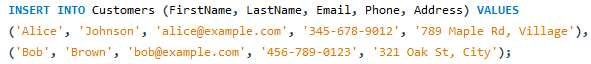


Customer table has the following attributes:

* customerID
* firstName
* lastName
* email
* phone
* address

create and populate the table:

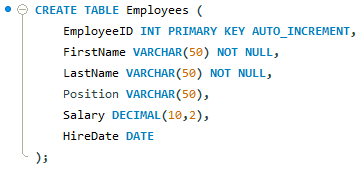


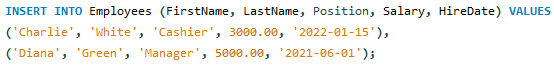


Employee table has the following attributes:

* employeeID
* firstName
* lastName
* position
* salary
* hireDate

create and populate the table:

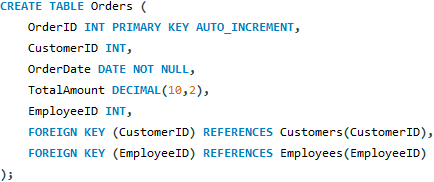




Order table has the following attributes:

* orderID
* customerID (foreign key)
* orderDate
* totalAmount
* employeeID (foreign key)

create and populate the table:

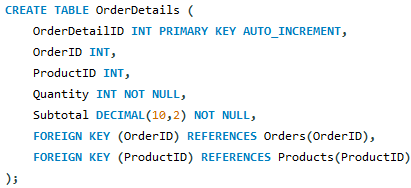




OrderDetails table has the following attributes:

* orderDetailID
* orderID
* productID
* quantity
* subtotal

create and populate the table:

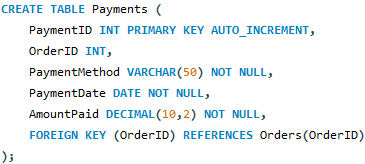




Payments table has the following attributes:

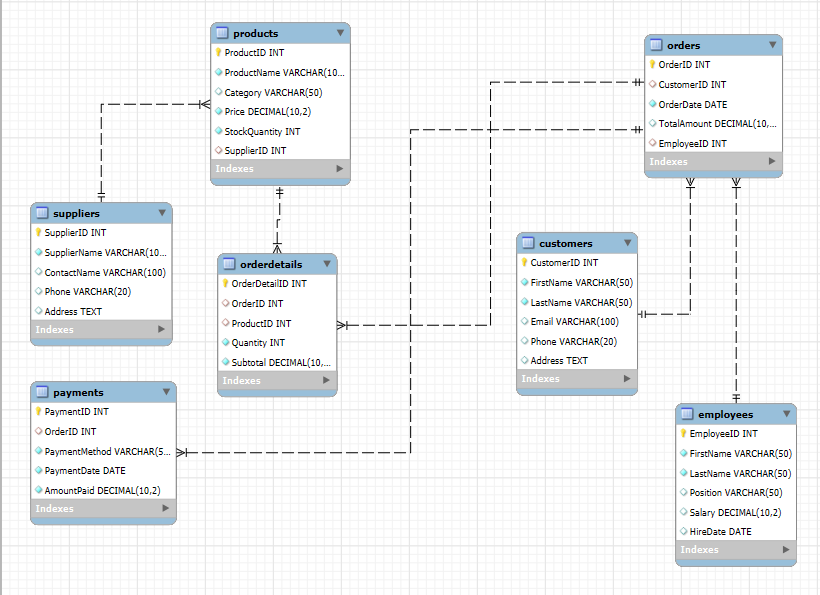
* paymentID
* orderID
* paymentMethod
* paymentDate
* amountPaid

create and populate the table:





ERD for the Supermarket DB is:



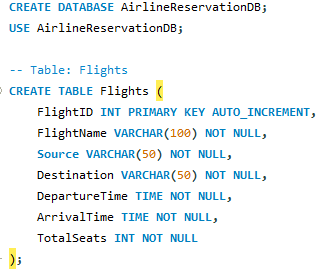
**Q. Create an Airline Database with the required tables.**

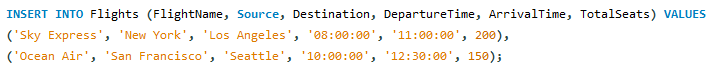
Ans:

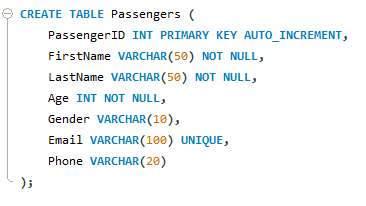
Airline database consists of the following tables:

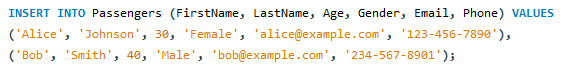
* Flights
* Passengers
* Reservations
* Payments

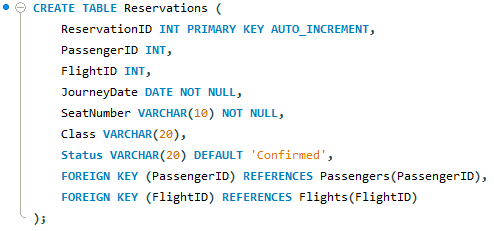
Create the tables and populate them as follows:

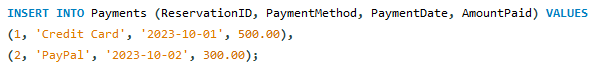


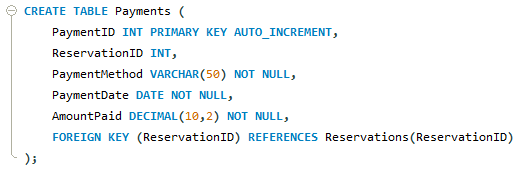


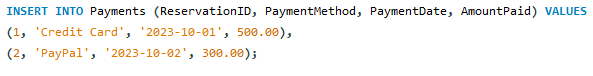












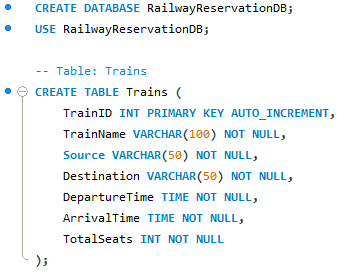
**Q. Create a Railway Database with the required tables.**

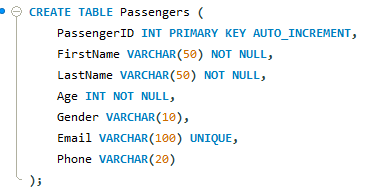
Ans:

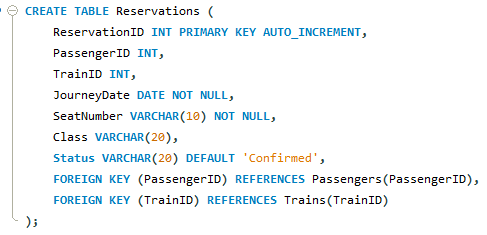
The Railway Reservation DB consists of the following tables:

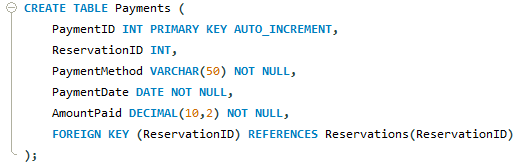
* Trains
* Passengers
* Reservations
* Payments

Create and populate the tables as shown below:

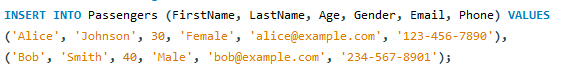


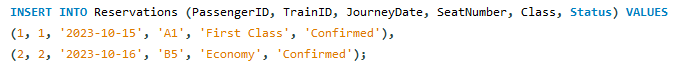








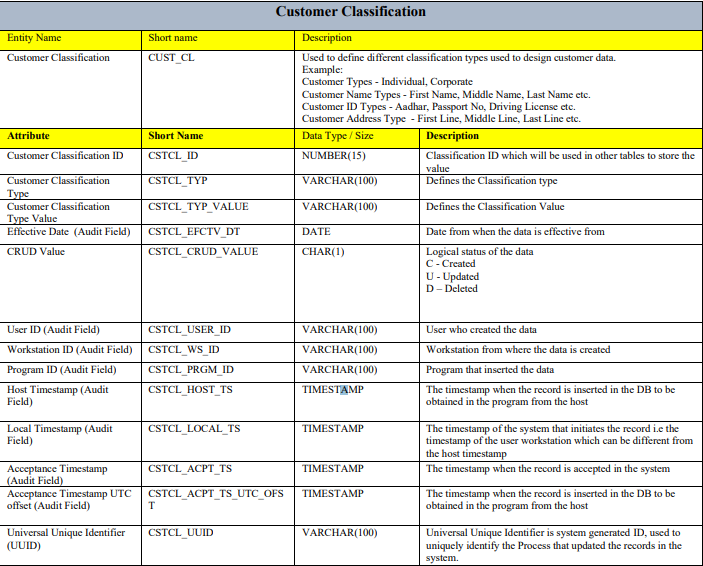






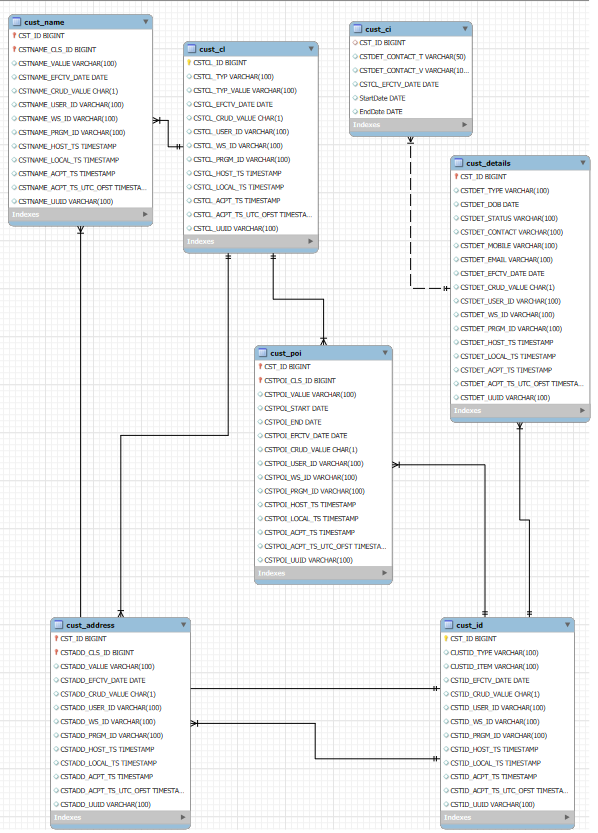
**Lab Manual – Week 2&3 Solved Table creation:**

***(Sample of Customer Classification Table)***



**Q1. Design an ERD/LDM for the above entities.**

**Ans:** ERD for all the entities:



**Q2. Define the physical tables in the table format given as sample for Customer Classification with the datatype, size and explanation of each field.**

Ans:

|  |  |  |  |
| --- | --- | --- | --- |
| Customer Identification | | | |
| **Entity Name** | **Short Name** | **Description** | |
| Customer Identification | CUST\_ID | Gives information about customer identification | |
| **Attribute** | **Short Name** | **Data type / size** | **Description** |
| Customer ID | CST\_ID | INT |  |
| Customer Type | CUSTID\_TYPE | VARCHAR (100) |  |
| Customer Item | CUSTID\_ITEM | VARCHAR (100) |  |
| Customer Effective Date | CSTID\_EFCTV\_DATE | DATE |  |
| Customer CRUD Value | CSTID\_CRUD\_VALUE | CHAR (1) |  |
| Customer User ID | CSTID\_USER\_ID | VARCHAR (100) |  |
| Customer Workstation ID | CSTID\_WS\_ID | VARCHAR (100) |  |
| Program ID | CSTID\_PRGM\_ID | VARCHAR (100) |  |
| Host Timestamp | CSTID\_HOST\_TS | TIMESTAMP |  |
| Local Timestamp | CSTID\_LOCAL\_TS | TIMESTAMP |  |
| Acceptance Timestamp | CSTID\_ACPT\_TS | TIMESTAMP |  |
| Acceptance Timestamp UTS offset | CSTID\_ACPT\_TS\_UTC\_OFST | TIMESTAMP |  |
| Universal unique identifier | CSTID\_UUID | VARCHAR (100) |  |

|  |  |  |  |
| --- | --- | --- | --- |
| Customer Details | | | |
| **Entity Name** | **Short Name** | **Description** | |
| Customer Details | CUST\_DET |  | |
| **Attribute** | **Short Name** | **Data type / size** | **Description** |
| Customer ID | CST\_ID | INT |  |
|  | CUSTDET\_TYPE | VARCHAR (100) |  |
| Customer DOB | CSTDET\_DOB | VARCHAR (100) |  |
| Customer Status | CSTDET\_STATUS | DATE |  |
| Customer Contact | CSTDET\_CONTACT |  |  |
| Customer Mobile | CSTDET\_MOBILE |  |  |
| Customer Email | CSTDET\_EMAIL |  |  |
| Customer Effective Date | CSTDET\_EFCTV\_DATE |  |  |
| Customer CRUD Value | CSTID\_CRUD\_VALUE | CHAR (1) |  |
| Customer User ID | CSTID\_USER\_ID | VARCHAR (100) |  |
| Customer Workstation ID | CSTID\_WS\_ID | VARCHAR (100) |  |
| Program ID | CSTID\_PRGM\_ID | VARCHAR (100) |  |
| Host Timestamp | CSTID\_HOST\_TS | TIMESTAMP |  |
| Local Timestamp | CSTID\_LOCAL\_TS | TIMESTAMP |  |
| Acceptance Timestamp | CSTID\_ACPT\_TS | TIMESTAMP |  |
| Acceptance Timestamp UTS offset | CSTID\_ACPT\_TS\_UTC\_OFST | TIMESTAMP |  |
| Universal unique identifier | CSTID\_UUID | VARCHAR (100) |  |

|  |  |  |  |
| --- | --- | --- | --- |
| Customer Name | | | |
| **Entity Name** | **Short Name** | **Description** | |
| Customer Name | CUST\_NAME |  | |
| **Attribute** | **Short Name** | **Data type / size** | **Description** |
| Customer ID | CST\_ID | INT |  |
|  | CUSTDET\_TYPE | VARCHAR (100) |  |
| Customer DOB | CSTDET\_DOB | VARCHAR (100) |  |
| Customer Status | CSTDET\_STATUS | DATE |  |
| Customer Contact | CSTDET\_CONTACT |  |  |
| Customer Mobile | CSTDET\_MOBILE |  |  |
| Customer Email | CSTDET\_EMAIL |  |  |
| Customer Effective Date | CSTDET\_EFCTV\_DATE |  |  |
| Customer CRUD Value | CSTID\_CRUD\_VALUE | CHAR (1) |  |
| Customer User ID | CSTID\_USER\_ID | VARCHAR (100) |  |
| Customer Workstation ID | CSTID\_WS\_ID | VARCHAR (100) |  |
| Program ID | CSTID\_PRGM\_ID | VARCHAR (100) |  |
| Host Timestamp | CSTID\_HOST\_TS | TIMESTAMP |  |
| Local Timestamp | CSTID\_LOCAL\_TS | TIMESTAMP |  |
| Acceptance Timestamp | CSTID\_ACPT\_TS | TIMESTAMP |  |
| Acceptance Timestamp UTS offset | CSTID\_ACPT\_TS\_UTC\_OFST | TIMESTAMP |  |
| Universal unique identifier | CSTID\_UUID | VARCHAR (100) |  |