

Lana Bracken
Project: Database Design and Implementation

Task 1 ii)

MySQL DDL

```
CREATE DATABASE IF NOT EXISTS FinalProject;
```

```
USE FinalProject;
```

```
CREATE TABLE IF NOT EXISTS Employee
```

```
(  
EmployeeID INT NOT NULL PRIMARY KEY AUTO_INCREMENT,  
Name VarChar(50),  
Job VarChar(30),  
UserName VarChar(30)  
);
```

```
CREATE TABLE IF NOT EXISTS Customer
```

```
(  
CustomerID INT NOT NULL PRIMARY KEY AUTO_INCREMENT,  
Name VarChar(50)  
);
```

```
CREATE TABLE IF NOT EXISTS Address
```

```
(  
AddressID int PRIMARY KEY AUTO_INCREMENT,  
Address VarChar(100),  
AddressType VarChar(50)  
);
```

```
CREATE TABLE IF NOT EXISTS Contract
```

```
(
```

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```
ContractID int PRIMARY KEY AUTO_INCREMENT,  
ContractNumber VarChar(30) NOT NULL,  
Initial_Meter_Reading decimal(10,2),  
BillingRate decimal(10,2),  
MeterID int NOT NULL  
);
```

```
CREATE TABLE IF NOT EXISTS Meter  
(  
MeterID INT PRIMARY KEY AUTO_INCREMENT,  
MeterNumber int  
);
```

```
CREATE TABLE IF NOT EXISTS Bill  
(  
BillId INT NOT NULL PRIMARY KEY AUTO_INCREMENT,  
BillNumber varchar(20),  
BillDate Date not null,  
Balance decimal(10, 2),  
Consumption decimal(10, 2),  
Cost decimal(10, 2),  
MeterReadingID int NOT NULL,  
CustomerContractAddrAssocID int NOT NULL  
);
```

```
CREATE TABLE IF NOT EXISTS MeterReading  
(  
MeterReadingID INT NOT NULL PRIMARY KEY AUTO_INCREMENT,
```

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```
CurrReadingDate Date,  
CurrMeterReading decimal(19, 2),  
CustomerContractAddrAssocID int NOT NULL,  
MeterID int not null,  
CurrReederID int null,  
PrevMeterReadingDate date,  
PrevMeterReading decimal(19, 2),  
PrevReederID int null,  
Notes varchar(100)  
);
```

```
CREATE TABLE IF NOT EXISTS Payments  
(  
PaymentID INT NOT NULL PRIMARY KEY AUTO_INCREMENT,  
Amount decimal(10, 2) not null,  
PaymentDate date not null,  
Method varchar(20) ,  
BillID int not null,  
CustomerContractAddrAssocID int not null  
);
```

```
CREATE TABLE IF NOT EXISTS CustomerContractAddrAssoc  
(  
CustomerContractAddrAssocID int PRIMARY KEY AUTO_INCREMENT,  
ActivationDt date not null,  
DeactivationDt date,  
ContractID int not null,  
AddressID int not null,
```

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CustomerID int not null

);

-- now adding in foreign keys once tables have been created

```
ALTER TABLE CustomerContractAddrAssoc  
ADD CONSTRAINT FK_CustomerContractAddrAssoc_AddressID  
FOREIGN KEY (AddressID) REFERENCES Address(AddressID);
```

```
ALTER TABLE CustomerContractAddrAssoc  
ADD CONSTRAINT FK_CustomerContractAddrAssoc_ContractID  
FOREIGN KEY (ContractID) REFERENCES Contract(ContractID);
```

```
ALTER TABLE CustomerContractAddrAssoc  
ADD CONSTRAINT FK_CustomerContractAddrAssoc_CustomerID  
FOREIGN KEY (CustomerID) REFERENCES Customer(CustomerID);
```

```
ALTER TABLE Contract  
ADD CONSTRAINT FK_Contract_MeterID  
FOREIGN KEY (MeterID) REFERENCES Meter(MeterID);
```

```
ALTER TABLE MeterReading  
ADD CONSTRAINT FK_MeterReading_MeterID  
FOREIGN KEY (MeterID) REFERENCES Meter(MeterID);
```

```
ALTER TABLE MeterReading  
ADD CONSTRAINT FK_MeterReading_CustomerContractAddrAssocID
```

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```
FOREIGN KEY (CustomerContractAddrAssocID) REFERENCES  
CustomerContractAddrAssoc(CustomerContractAddrAssocID);
```

```
ALTER TABLE MeterReading  
  
ADD CONSTRAINT FK_MeterReading_CurrReederID  
  
FOREIGN KEY (CurrReederID) REFERENCES Employee(EmployeeID);
```

```
ALTER TABLE MeterReading  
  
ADD CONSTRAINT FK_MeterReading_PrevReederID  
  
FOREIGN KEY (PrevReederID) REFERENCES Employee(EmployeeID);
```

```
ALTER TABLE Bill  
  
ADD CONSTRAINT FK_Bill_MeterReadingID  
  
FOREIGN KEY (MeterReadingID) REFERENCES MeterReading(MeterReadingID);
```

```
ALTER TABLE Bill  
  
ADD CONSTRAINT FK_Bill_CustomerContractAddrAssocID  
  
FOREIGN KEY (CustomerContractAddrAssocID) REFERENCES  
CustomerContractAddrAssoc(CustomerContractAddrAssocID);
```

```
ALTER TABLE Payments  
  
ADD CONSTRAINT FK_Payments_CustomerContractAddrAssocID  
  
FOREIGN KEY (CustomerContractAddrAssocID) REFERENCES  
CustomerContractAddrAssoc(CustomerContractAddrAssocID);
```

```
ALTER TABLE Payments  
  
ADD CONSTRAINT FK_Payments_BillIDEmployee  
  
FOREIGN KEY (BillID) REFERENCES Bill(BillID);
```

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SHOW TABLES;