Homework 2
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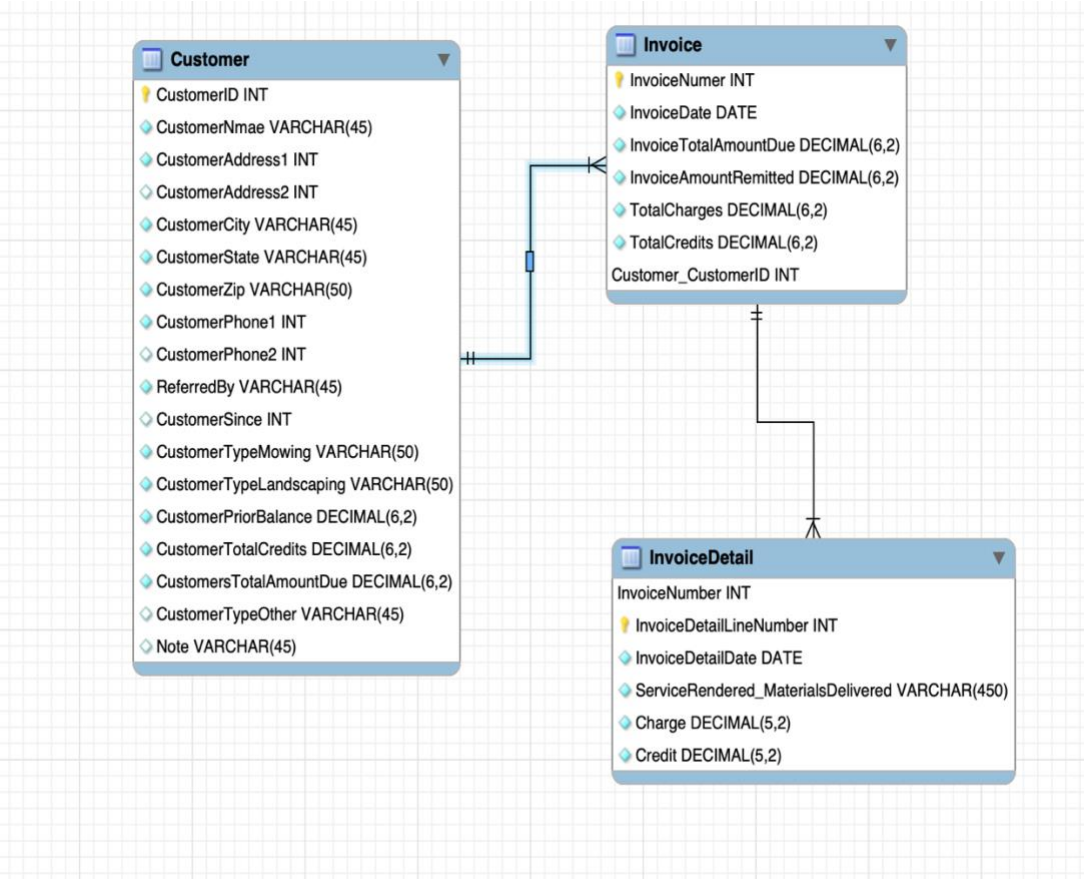
Part 1: Date Model



Part 2: DDL Scripts

```
-- MySQL Script generated by MySQL Workbench
-- Sat Feb 16 15:21:15 2019
-- Model: New Model    Version: 1.0
-- MySQL Workbench Forward Engineering

SET @OLD_UNIQUE_CHECKS=@@UNIQUE_CHECKS, UNIQUE_CHECKS=0;
SET @OLD_FOREIGN_KEY_CHECKS=@@FOREIGN_KEY_CHECKS, FOREIGN_KEY_CHECKS=0;
SET @OLD_SQL_MODE=@@SQL_MODE,
SQL_MODE='ONLY_FULL_GROUP_BY,STRICT_TRANS_TABLES,NO_ZERO_IN_DATE,NO_ZERO_DA
TE,ERROR_FOR_DIVISION_BY_ZERO,NO_ENGINE_SUBSTITUTION';

-- -----------------------------------------------------
```

```
-- Schema homework2
-- -----------------------------------------------------

-- -----------------------------------------------------
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-- -----------------------------------------------------
CREATE SCHEMA IF NOT EXISTS `homework2` DEFAULT CHARACTER SET utf8 ;
USE `homework2` ;

-- -----------------------------------------------------
-- Table `homework2`.`Customer`
-- -----------------------------------------------------
DROP TABLE IF EXISTS `homework2`.`Customer` ;

CREATE TABLE IF NOT EXISTS `homework2`.`Customer` (
  `CustomerID` INT NOT NULL AUTO_INCREMENT,
  `CustomerNmae` VARCHAR(45) NOT NULL,
  `CustomerAddress1` INT NOT NULL,
  `CustomerAddress2` INT NULL,
  `CustomerCity` VARCHAR(45) NOT NULL,
  `CustomerState` VARCHAR(45) NOT NULL,
  `CustomerZip` VARCHAR(50) NOT NULL,
  `CustomerPhone1` INT NOT NULL,
  `CustomerPhone2` INT NULL,
  `ReferredBy` VARCHAR(45) NOT NULL,
  `CustomerSince` INT NULL,
  `CustomerTypeMowing` VARCHAR(50) NOT NULL,
  `CustomerTypeLandscaping` VARCHAR(50) NOT NULL,
  `CustomerPriorBalance` DECIMAL(6,2) NOT NULL,
  `CustomerTotalCredits` DECIMAL(6,2) NOT NULL,
  `CustomersTotalAmountDue` DECIMAL(6,2) NOT NULL,
  `CustomerTypeOther` VARCHAR(45) NULL,
  `Note` VARCHAR(45) NULL,
  PRIMARY KEY (`CustomerID`))
ENGINE = InnoDB;


-- -----------------------------------------------------
-- Table `homework2`.`Invoice`
-- -----------------------------------------------------
DROP TABLE IF EXISTS `homework2`.`Invoice` ;

CREATE TABLE IF NOT EXISTS `homework2`.`Invoice` (
  `InvoiceNumer` INT NOT NULL AUTO_INCREMENT,
```

```
  `InvoiceDate` DATE NOT NULL,
  `InvoiceTotalAmountDue` DECIMAL(6,2) NOT NULL,
  `InvoiceAmountRemitted` DECIMAL(6,2) NOT NULL,
  `TotalCharges` DECIMAL(6,2) NOT NULL,
  `TotalCredits` DECIMAL(6,2) NOT NULL,
  `Customer_CustomerID` INT NOT NULL,
  PRIMARY KEY (`InvoiceNumer`, `Customer_CustomerID`),
  INDEX `fk_Invoice_Customer1_idx` (`Customer_CustomerID` ASC) VISIBLE,
  CONSTRAINT `fk_Invoice_Customer1`
    FOREIGN KEY (`Customer_CustomerID`)
    REFERENCES `homework2`.`Customer` (`CustomerID`)
    ON DELETE NO ACTION
    ON UPDATE NO ACTION)
ENGINE = InnoDB;


-- -----------------------------------------------------
-- Table `homework2`.`InvoiceDetail`
-- -----------------------------------------------------
DROP TABLE IF EXISTS `homework2`.`InvoiceDetail` ;

CREATE TABLE IF NOT EXISTS `homework2`.`InvoiceDetail` (
  `InvoiceNumber` INT NOT NULL,
  `InvoiceDetailLineNumber` INT NOT NULL AUTO_INCREMENT,
  `InvoiceDetailDate` DATE NOT NULL,
  `ServiceRendered_MaterialsDelivered` VARCHAR(450) NOT NULL,
  `Charge` DECIMAL(5,2) NOT NULL,
  `Credit` DECIMAL(5,2) NOT NULL,
  PRIMARY KEY (`InvoiceNumber`, `InvoiceDetailLineNumber`),
  CONSTRAINT `fk_InvoiceDetail_Invoice`
    FOREIGN KEY (`InvoiceNumber`)
    REFERENCES `homework2`.`Invoice` (`InvoiceNumer`)
    ON DELETE NO ACTION
    ON UPDATE NO ACTION)
ENGINE = InnoDB;


SET SQL_MODE=@OLD_SQL_MODE;
SET FOREIGN_KEY_CHECKS=@OLD_FOREIGN_KEY_CHECKS;
SET UNIQUE_CHECKS=@OLD_UNIQUE_CHECKS;
```

Part 3: Assumption & Thought Process

1. I had to assume that customers has multiple possible invoices, so I used an independent one to many relationship between Customers and invoice.
2. Invoice are composed of invoice details, so I used a dependent one to many.
3. Customer ID is the foreign key of Invoice table and the InvoiceNumber is foreign key of InvoiceDetail table .