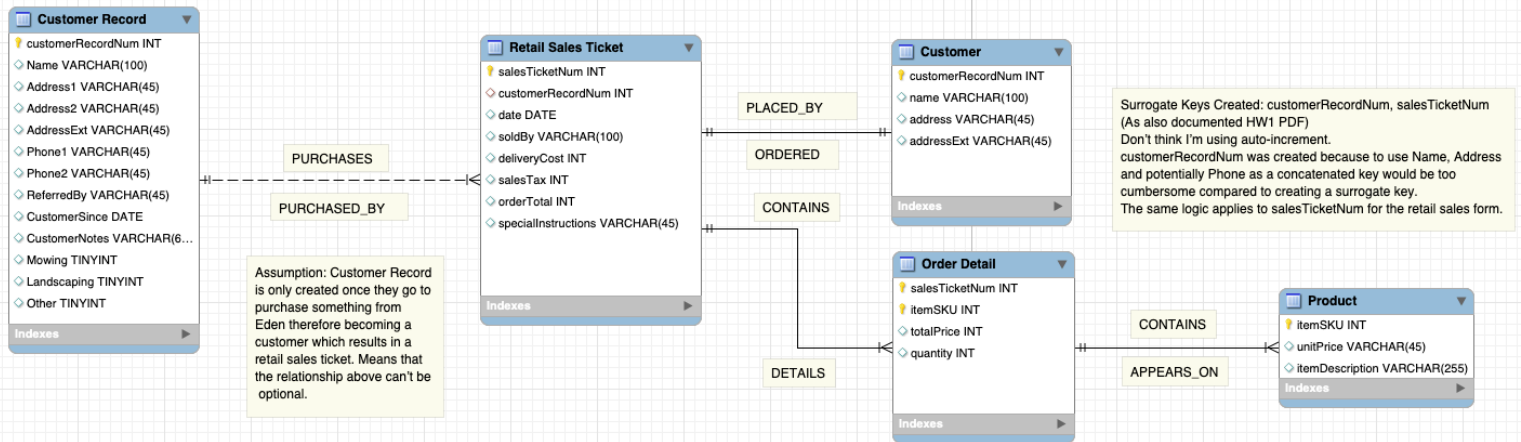


## First Section - Screenshot of Data Model



## SECOND SECTION - MY DDL as text from Workbench

```
-- MySQL Script generated by MySQL Workbench
-- Tue Feb 16 16:59:27 2021
-- 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='TRADITIONAL,ALLOW_INVALID_DATES';
```

```
-- Schema mydb
```

```
-- Schema mydb
```

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

```
-- Table `mydb`.`Customer Record`
```

```
CREATE TABLE IF NOT EXISTS `mydb`.`Customer Record` (
  `customerRecordNum` INT NULL,
```

```

`Name` VARCHAR(100) NULL,
`Address1` VARCHAR(45) NULL,
`Address2` VARCHAR(45) NULL,
`AddressExt` VARCHAR(45) NULL,
`Phone1` VARCHAR(45) NULL,
`Phone2` VARCHAR(45) NULL,
`ReferredBy` VARCHAR(45) NULL,
`CustomerSince` DATE NULL,
`CustomerNotes` VARCHAR(65535) NULL,
`Mowing` TINYINT NULL,
`Landscaping` TINYINT NULL,
`Other` TINYINT NULL,
PRIMARY KEY (`customerRecordNum`))
ENGINE = InnoDB;

```

```

-----
-- Table `mydb`.`Retail Sales Ticket`
-----

```

```

CREATE TABLE IF NOT EXISTS `mydb`.`Retail Sales Ticket` (
  `salesTicketNum` INT NOT NULL,
  `customerRecordNum` INT NULL,
  `date` DATE NULL,
  `soldBy` VARCHAR(100) NULL,
  `deliveryCost` INT NULL,
  `salesTax` INT NULL,
  `orderTotal` INT NULL,
  `specialInstructions` VARCHAR(45) NULL,
  PRIMARY KEY (`salesTicketNum`),
  INDEX `customerRecordNum_idx` (`customerRecordNum` ASC),
  CONSTRAINT `customerRecordNum`
    FOREIGN KEY (`customerRecordNum`)
      REFERENCES `mydb`.`Customer Record` (`customerRecordNum`)
      ON DELETE NO ACTION
      ON UPDATE NO ACTION)
ENGINE = InnoDB;

```

```

-----
-- Table `mydb`.`Customer`
-----

```

```

CREATE TABLE IF NOT EXISTS `mydb`.`Customer` (
  `customerRecordNum` INT NOT NULL,
  `name` VARCHAR(100) NULL,
  `address` VARCHAR(45) NULL,
  `addressExt` VARCHAR(45) NULL,
  PRIMARY KEY (`customerRecordNum`),
  CONSTRAINT `customerRecordNum`
    FOREIGN KEY ()
      REFERENCES `mydb`.`Retail Sales Ticket` ()
      ON DELETE NO ACTION
      ON UPDATE NO ACTION)
ENGINE = InnoDB;

```

```

-----
-- Table `mydb`.`Order Detail`
-----
CREATE TABLE IF NOT EXISTS `mydb`.`Order Detail` (
  `salesTicketNum` INT NOT NULL,
  `itemSKU` INT NOT NULL,
  `totalPrice` INT NULL,
  `quantity` INT NULL,
  PRIMARY KEY (`salesTicketNum`, `itemSKU`),
  CONSTRAINT `salesTicketNum`
    FOREIGN KEY ()
    REFERENCES `mydb`.`Retail Sales Ticket` ()
    ON DELETE NO ACTION
    ON UPDATE NO ACTION)
ENGINE = InnoDB;

```

```

-----
-- Table `mydb`.`Product`
-----
CREATE TABLE IF NOT EXISTS `mydb`.`Product` (
  `itemSKU` INT NOT NULL,
  `unitPrice` VARCHAR(45) NULL,
  `itemDescription` VARCHAR(255) NULL,
  PRIMARY KEY (`itemSKU`),
  CONSTRAINT `itemSKU`
    FOREIGN KEY ()
    REFERENCES `mydb`.`Order Detail` ()
    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;

```

## THIRD SECTION - Assumptions and Notes

- Used my personal 3NF from HW #1 (also included below, didn't know if its needed)
- Assumption: Customer Record is only created once they go to purchase something from Eden therefore becoming a customer which results in a retail sales ticket. Means that the relationship above can't be optional
- Surrogate Keys Created:
  - customerRecordNum
  - salesTicketNum
  - Don't think I'm using auto-increment for these
- customerRecordNum was created because to use Name, Address and potentially Phone as a concatenated key would be too cumbersome compared to creating a surrogate key
- The same logic applies to salesTicketNum for the retail sales form

	Unnormalized	First Normal Form	Second Normal Form	Third Normal Form		
	CUSTOMER RECORD	CUSTOMER RECORD	CUSTOMER RECORD	CUSTOMER RECORD		
	Name	Customer Record Number (SK)	Customer Record Number (SK)	Customer Record Number (SK)		
	Address 1	Name	Name	Name		
	Address 2	Address 1	Address 1	Address 1		
	Address Extension	Address 2	Address 2	Address 2		
	Phone 1	Address Extension	Address Extension	Address Extension		
	Phone 2	Phone 1	Phone 1	Phone 1		
	Referred By	Phone 2	Phone 2	Phone 2		
	Customer Since	Referred By	Referred By	Referred By		
	Customer Notes	Customer Since	Customer Since	Customer Since		
	Mowing	Customer Notes	Customer Notes	Customer Notes		
	Landscaping	Mowing	Mowing	Mowing		
	Other	Landscaping	Landscaping	Landscaping		
		Other	Other	Other		
	RETAIL SALES TICKET	RETAIL SALES TICKET	RETAIL SALES TICKET	RETAIL SALES TICKET		
	Date	Sales Ticket Number (SK)	Sales Ticket Number (SK)	Sales Ticket Number (SK)		
	CustomerName	Date	Date	Customer Record Number (FK)		
	Address	Customer Name	Name	Date		
	Address Extension	Address	Address	Sold By		
	Phone	Address Extension	Address Extension	Delivery Cost		
	Sold By	Sold By	Sold By	Sales Tax		
---	Quantity	Delivery Cost	Delivery Cost	Order Total		
	Item SKU	Sales Tax	Sales Tax	Special Instructions		
	Item Description	Order Total	Order Total	CUSTOMER		
	Unit Price	Special Instructions	Special Instructions	Customer Record Number (SK)		
---	Total Price	ORDER DETAIL	ORDER DETAIL	Name		
	Delivery Cost	Sales Ticket Number (SK)	Sales Ticket Number (SK)	Address		
	Sales Tax	Item SKU	Item SKU	Address Extension		
	Order Total	Quantity	Total Price	ORDER DETAIL		
	Special Instructions	Item Description	Quantity	Sales Ticket Number (SK)		
		Unit Price	PRODUCT	Item SKU		
		Total Price	Item SKU	Total Price		
			Unit Price	Quantity		
			Item Description	PRODUCT		
				Item SKU		
				Unit Price		
				Item Description		

