

# BarBeerDrinker Project (Plus) – CS336

## Part 3 – Table Constraints (PK & FK)

For this part of the project, I created a duplicate backup database with all the primary keys and foreign keys and its restrictions called “testProject”. This has also been uploaded along with other files in a .sql format. In this document, I ran a “SHOW CREATE TABLE” command on all tables and placed the outputs as below. Only relevant tables for the individual project were used in testProject.

### Note:

- Even the functionality in the Modification Page of the web app also testProject, however, Part 1 (Bar, Beer, Drinker pages) use the original BarBeerDrinkerProject database that I created in the beginning of this project.
- Also, note that BarBeerDrinkerProject has all recent data as of 24<sup>th</sup> November 2020 and testProject has data as of 27<sup>th</sup> of November 2020.
- Lastly, I had to rewrite most string variables in terms of VARCHAR(int) instead of TEXT to avoid certain BLOB/TEXT errors when establishing primary and foreign keys.

#### 1. Bar table

```
CREATE TABLE `bar` (
  `name` varchar(100) NOT NULL,
  `state` varchar(100) NOT NULL,
  PRIMARY KEY (`name`,`state`)
) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4 COLLATE=utf8mb4_0900_ai_ci
```

#### 2. Barfood table

```
CREATE TABLE `barfood` (
  `name` varchar(200) NOT NULL,
  PRIMARY KEY (`name`)
) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4 COLLATE=utf8mb4_0900_ai_ci
```

#### 3. Beer table

```
CREATE TABLE `beer` (
  `name` varchar(200) NOT NULL,
  `manf` text,
  PRIMARY KEY (`name`)
) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4 COLLATE=utf8mb4_0900_ai_ci
```

#### 4. Bill table

```
CREATE TABLE `bills` (  
  `bill_id` varchar(300) NOT NULL,  
  `bar` varchar(300) DEFAULT NULL,  
  `date` varchar(300) DEFAULT NULL,  
  `drinker` varchar(300) DEFAULT NULL,  
  `items_price` double DEFAULT NULL,  
  `tax_price` double DEFAULT NULL,  
  `tip` double DEFAULT NULL,  
  `total_price` double DEFAULT NULL,  
  `time` varchar(300) DEFAULT NULL,  
  `bartender` varchar(300) DEFAULT NULL,  
  `day` varchar(300) DEFAULT NULL,  
  PRIMARY KEY (`bill_id`),  
  KEY `bar_idx` (`bar`),  
  KEY `day_idx` (`day`),  
  KEY `drinker_idx` (`drinker`),  
  CONSTRAINT `bar` FOREIGN KEY (`bar`) REFERENCES `bar` (`name`) ON DELETE RESTRICT ON  
UPDATE CASCADE,  
  CONSTRAINT `day` FOREIGN KEY (`day`) REFERENCES `day` (`name`) ON DELETE RESTRICT ON  
UPDATE CASCADE,  
  CONSTRAINT `drinker` FOREIGN KEY (`drinker`) REFERENCES `drinker` (`name`) ON DELETE  
RESTRICT ON UPDATE CASCADE  
) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4 COLLATE=utf8mb4_0900_ai_ci
```

5. Day table

```
CREATE TABLE `day` (  
  `name` varchar(100) NOT NULL,  
  PRIMARY KEY (`name`)  
) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4 COLLATE=utf8mb4_0900_ai_ci
```

6. Drinker table

```
CREATE TABLE `drinker` (  
  `name` varchar(200) NOT NULL,  
  `phone` varchar(200) NOT NULL,  
  `state` text,  
  PRIMARY KEY (`name`,`phone`)  
) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4 COLLATE=utf8mb4_0900_ai_ci
```

7. Frequents table:

```
CREATE TABLE `frequents` (  
  `bar` varchar(200) NOT NULL,
```

```
`drinker` varchar(200) NOT NULL,  
PRIMARY KEY (`bar`,`drinker`),  
KEY `drinker_freq_idx` (`drinker`),  
CONSTRAINT `bar_freq` FOREIGN KEY (`bar`) REFERENCES `bar` (`name`) ON DELETE  
RESTRICT ON UPDATE CASCADE,  
CONSTRAINT `drinker_freq` FOREIGN KEY (`drinker`) REFERENCES `drinker` (`name`) ON  
DELETE RESTRICT ON UPDATE CASCADE  
) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4 COLLATE=utf8mb4_0900_ai_ci
```

8. Likes table:

```
CREATE TABLE `likes` (  
  `drinker` varchar(200) NOT NULL,  
  `beer` varchar(200) NOT NULL,  
  PRIMARY KEY (`drinker`,`beer`)  
) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4 COLLATE=utf8mb4_0900_ai_ci
```

9. Operates table:

```
CREATE TABLE `operates` (  
  `bar` varchar(200) NOT NULL,  
  `day` varchar(200) NOT NULL,  
  `start` text,  
  `end` text,  
  PRIMARY KEY (`bar`,`day`),  
  KEY `day1_idx` (`day`),  
  CONSTRAINT `bar1` FOREIGN KEY (`bar`) REFERENCES `bar` (`name`) ON DELETE RESTRICT  
ON UPDATE CASCADE,  
  CONSTRAINT `day1` FOREIGN KEY (`day`) REFERENCES `day` (`name`) ON DELETE RESTRICT  
ON UPDATE CASCADE  
) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4 COLLATE=utf8mb4_0900_ai_ci
```

10. Sellsbeer table:

```
CREATE TABLE `sellsbeer` (  
  `barname` varchar(200) NOT NULL,  
  `beername` varchar(200) NOT NULL,  
  `price` double DEFAULT NULL,  
  PRIMARY KEY (`barname`,`beername`),  
  KEY `beername_idx` (`beername`),  
  CONSTRAINT `barname` FOREIGN KEY (`barname`) REFERENCES `bar` (`name`) ON DELETE  
RESTRICT ON UPDATE CASCADE,  
  CONSTRAINT `beername` FOREIGN KEY (`beername`) REFERENCES `beer` (`name`) ON  
DELETE RESTRICT ON UPDATE CASCADE
```

```
) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4 COLLATE=utf8mb4_0900_ai_ci
```

11. Sellsfood table:

```
CREATE TABLE `sellsfood` (  
  `barname` varchar(200) NOT NULL,  
  `foodname` varchar(200) NOT NULL,  
  `price` double DEFAULT NULL,  
  PRIMARY KEY (`foodname`,`barname`),  
  KEY `barname_idx` (`barname`),  
  CONSTRAINT `barname2` FOREIGN KEY (`barname`) REFERENCES `bar` (`name`) ON DELETE  
RESTRICT ON UPDATE CASCADE,  
  CONSTRAINT `foodname` FOREIGN KEY (`foodname`) REFERENCES `barfood` (`name`) ON  
DELETE RESTRICT ON UPDATE CASCADE  
) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4 COLLATE=utf8mb4_0900_ai_ci
```

12. Transactions table:

```
CREATE TABLE `transactions` (  
  `bill_id` varchar(200) DEFAULT NULL,  
  `quantity` int DEFAULT NULL,  
  `item` varchar(200) DEFAULT NULL,  
  `type` varchar(200) DEFAULT NULL,  
  `price` double DEFAULT NULL,  
  KEY `bill_id_idx` (`bill_id`),  
  CONSTRAINT `bill_id` FOREIGN KEY (`bill_id`) REFERENCES `bills` (`bill_id`) ON DELETE  
RESTRICT ON UPDATE CASCADE  
) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4 COLLATE=utf8mb4_0900_ai_ci
```