|  |
| --- |
| CREATE TABLE `Bill`( |
|  | `billNum` int(10) NOT NULL, |
|  | `c\_id` int(10) DEFAULT NULL, |
|  | `e\_id` int(5) DEFAULT NULL, |
|  | `tip` int(5) NOT NULL, |
|  | PRIMARY KEY (`billNum`), |
|  | KEY `customer\_bill\_fk\_idx` (`c\_id`), |
|  | KEY `employee\_bill\_fk\_idx` (`e\_id`), |
|  | CONSTRAINT `customer\_bill\_fk` FOREIGN KEY (`c\_id`) REFERENCES `customer` (`c\_id`) ON DELETE NO ACTION ON UPDATE NO ACTION, |
|  | CONSTRAINT `employee\_bill\_fk` FOREIGN KEY (`e\_id`) REFERENCES `employee` (`e\_id`) ON DELETE NO ACTION ON UPDATE NO ACTION |
|  | ) |

FD( billNum 🡪 billNum, c\_id, e\_id,tip)

The only attribute that has a non-trivial FD is a key, so this relation is BCNF

|  |
| --- |
|  |
|  |
|  | CREATE TABLE `Drinks` ( |
|  | `d\_id` int(5) NOT NULL, |
|  | `dname` varchar(25) NOT NULL, |
|  | `p\_id` int(5) DEFAULT NULL, |
|  | `alchohol` tinyint(1) DEFAULT NULL, |
|  | PRIMARY KEY (`d\_id`), |
|  | KEY `priceTable\_drinks\_fk\_idx` (`p\_id`), |
|  | CONSTRAINT `priceTable\_drinks\_fk` FOREIGN KEY (`p\_id`) REFERENCES `priceTable` (`p\_id`) ON DELETE NO ACTION ON UPDATE NO ACTION |
|  |  |

FD( d\_id 🡪 d\_id, dname, p\_id, alchohol)

The only attribute that has a non-trivial FD is a key, so this relation is BCNF

|  |
| --- |
| CREATE TABLE `customer` ( |
|  | `c\_id` int(5) NOT NULL, |
|  | `cname` varchar(45) NOT NULL, |
|  | `age` int(3) DEFAULT NULL, |
|  | PRIMARY KEY (`c\_id`) |
|  | ) |

FD( c\_id 🡪 c\_id, cname, age)

The only attribute that has a non-trivial FD is a key, so this relation is BCNF

|  |
| --- |
| CREATE TABLE `drinkpurchase` ( |
|  | `billNum` int(10) NOT NULL, |
|  | `d\_id` int(5) NOT NULL, |
|  | `qty` int(5) DEFAULT NULL, |
|  | PRIMARY KEY (`billNum`,`d\_id`), |
|  | KEY `drinks\_drinkpurchase\_fk\_idx` (`d\_id`), |
|  | CONSTRAINT `bill\_drinkpurchase\_fk` FOREIGN KEY (`billNum`) REFERENCES `Bill` (`billNum`) ON DELETE NO ACTION ON UPDATE NO ACTION, |
|  | CONSTRAINT `drinks\_drinkpurchase\_fk` FOREIGN KEY (`d\_id`) REFERENCES `Drinks` (`d\_id`) ON DELETE NO ACTION ON UPDATE NO ACTION |
|  | ) |

FD( billNum, d\_id 🡪 billNum, d\_id, qty)

The only attribute that has a non-trivial FD is a key, so this relation is BCNF

|  |
| --- |
| CREATE TABLE `employee` ( |
|  | `e\_id` int(5) NOT NULL, |
|  | `ename` varchar(45) NOT NULL, |
|  | `salary` float DEFAULT NULL, |
|  | `datehired` varchar(10) DEFAULT NULL, |
|  | PRIMARY KEY (`e\_id`) |
|  | ) |

FD(e\_id 🡪 e\_id, ename, salary, datehired)

The only attribute that has a non-trivial FD is a key, so this relation is BCNF

|  |
| --- |
| CREATE TABLE `fooditem` ( |
|  | `f\_id` int(5) NOT NULL, |
|  | `fname` varchar(45) NOT NULL, |
|  | `p\_id` int(10) DEFAULT NULL, |
|  | `vegan` tinyint(1) DEFAULT NULL, |
|  | `glutenfree` tinyint(1) DEFAULT NULL, |
|  | PRIMARY KEY (`f\_id`), |
|  | KEY `priceTable\_fooditem\_fk\_idx` (`p\_id`), |
|  | CONSTRAINT `priceTable\_fooditem\_fk` FOREIGN KEY (`p\_id`) REFERENCES `priceTable` (`p\_id`) ON DELETE NO ACTION ON UPDATE NO ACTION |
|  | ) |

FD( f\_id 🡪 f\_id, fname, p\_id, vegan, glutenfree)

The only attribute that has a non-trivial FD is a key, so this relation is BCNF

|  |
| --- |
| CREATE TABLE `foodpurchase` ( |
|  | `billNum` int(10) NOT NULL, |
|  | `f\_id` int(5) NOT NULL, |
|  | `qty` int(5) DEFAULT NULL, |
|  | PRIMARY KEY (`billNum`,`f\_id`), |
|  | KEY `fooditem\_foodpurchase\_fk\_idx` (`f\_id`), |
|  | CONSTRAINT `bill\_foodpurchase\_fk` FOREIGN KEY (`billNum`) REFERENCES `Bill` (`billNum`) ON DELETE NO ACTION ON UPDATE NO ACTION, |
|  | CONSTRAINT `fooditem\_foodpurchase\_fk` FOREIGN KEY (`f\_id`) REFERENCES `fooditem` (`f\_id`) ON DELETE NO ACTION ON UPDATE NO ACTION |
|  | ) |

FD( billNum, f\_id 🡪 billNum, f\_id, qty)

The only attribute that has a non-trivial FD is a key, so this relation is BCNF

|  |
| --- |
| CREATE TABLE `manager` ( |
|  | `m\_id` int(5) NOT NULL, |
|  | `mname` varchar(45) NOT NULL, |
|  | `e\_id` int(5) DEFAULT NULL, |
|  | PRIMARY KEY (`m\_id`), |
|  | KEY `employee\_manager\_fk\_idx` (`e\_id`), |
|  | CONSTRAINT `employee\_manager\_fk` FOREIGN KEY (`e\_id`) REFERENCES `employee` (`e\_id`) ON DELETE NO ACTION ON UPDATE NO ACTION |
|  | ) |

FD(m\_id 🡪 m\_id, mname, e\_id)

The only attribute that has a non-trivial FD is a key, so this relation is BCNF

|  |
| --- |
| CREATE TABLE `priceTable` ( |
|  | `p\_id` int(5) NOT NULL, |
|  | `price` float NOT NULL, |
|  | PRIMARY KEY (`p\_id`) |
|  | ) |

FD( p\_id 🡪 p\_id, price)

The only attribute that has a non-trivial FD is a key, so this relation is BCNF