

DBMS FINAL PROJECT: RESTAURANT

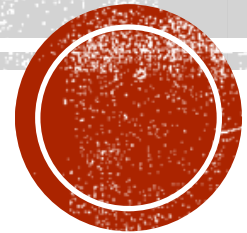
Team Members

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ENTITIES-

- RESTAURANT
- ITEM
- CUSTOMER
- BILL

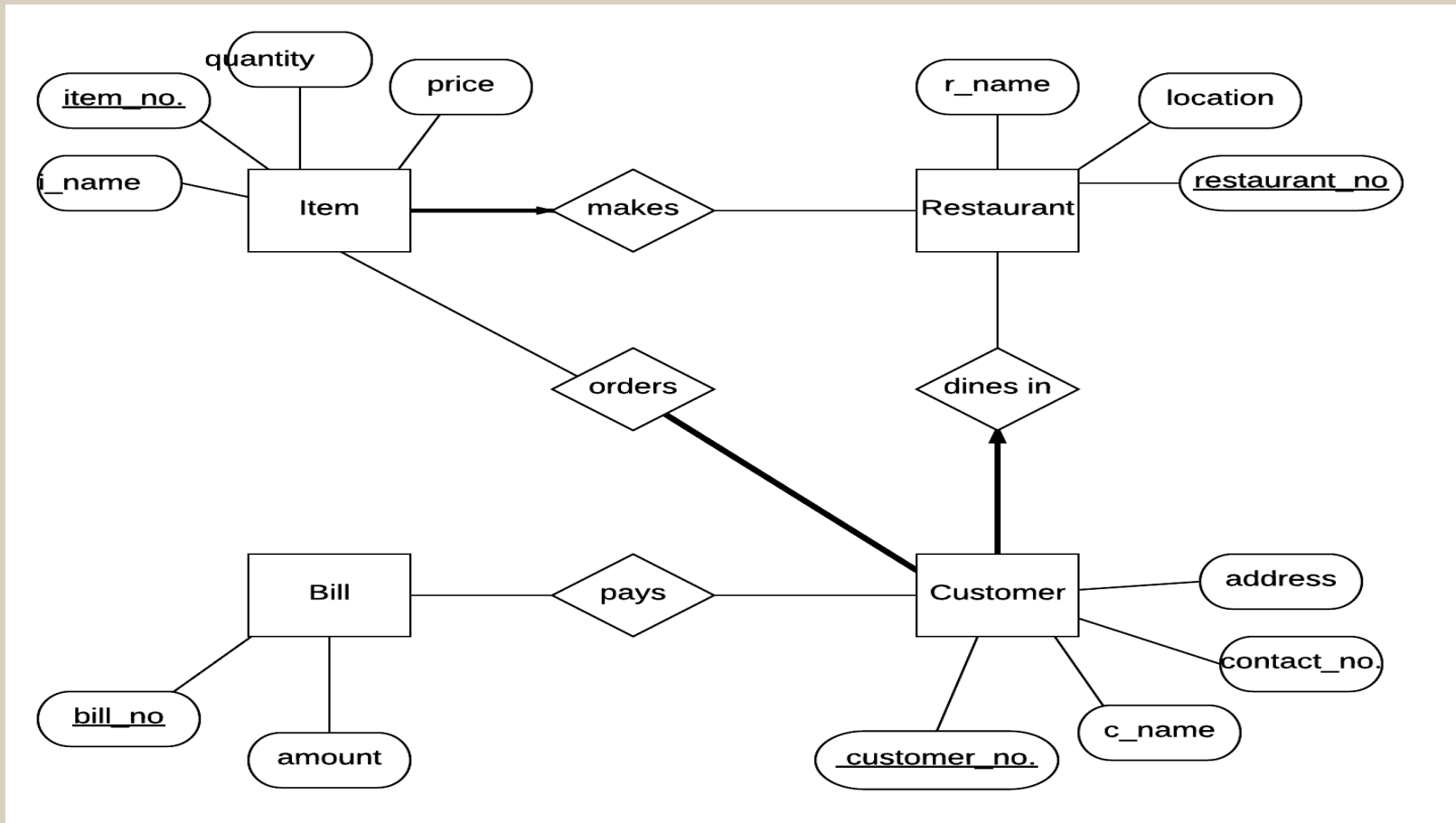


RELATIONSHIPS-

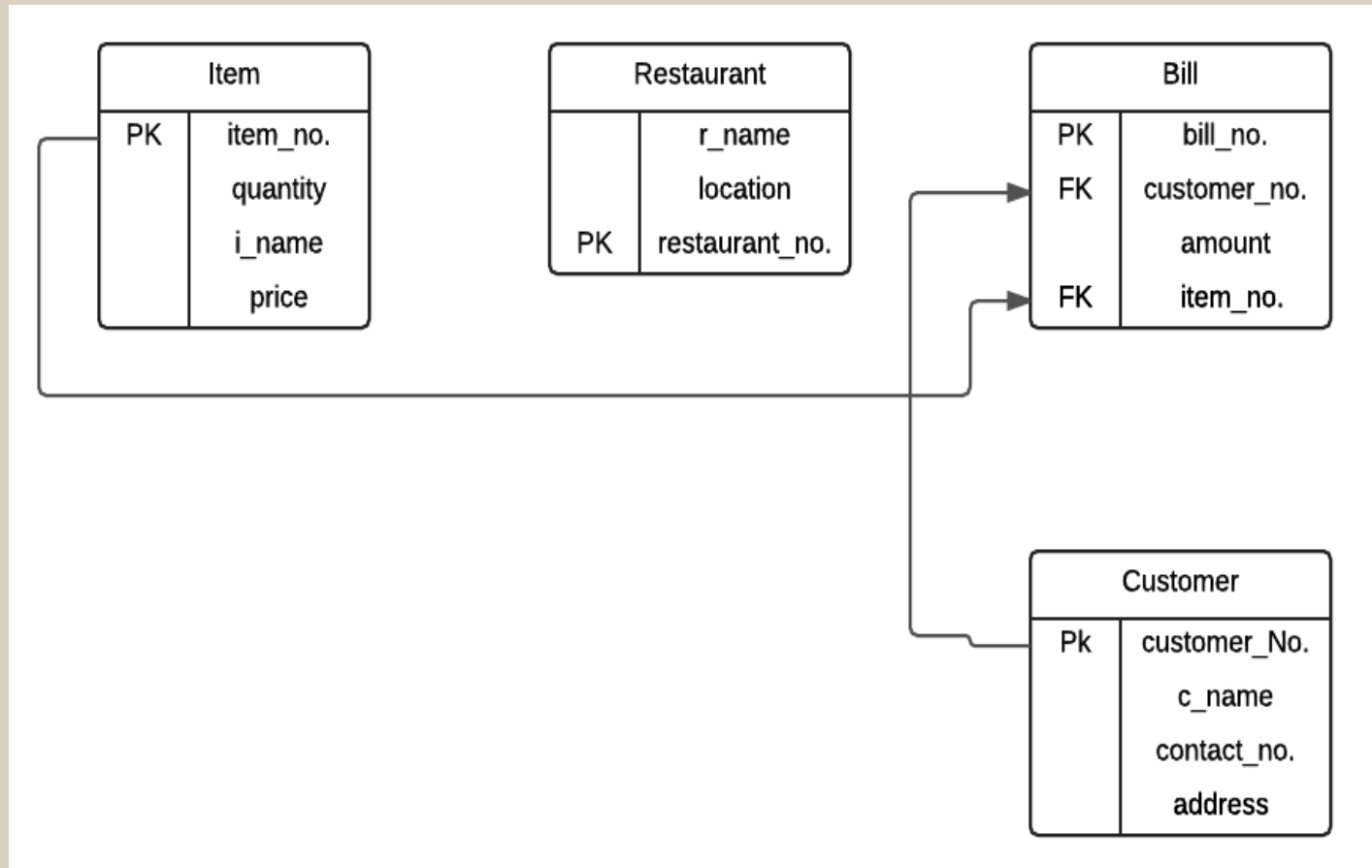
- restaurant MAKES item
- customer DINES_IN restaurant
- customer ORDERS item
- customer PAYS bill



ER DIAGRAM



LOGICAL SCHEMAS



CREATE TABLE- ITEM

```
CREATE TABLE Item (  
  item_no INTEGER NOT NULL PRIMARY KEY,  
  quantity INTEGER NOT NULL,  
  i_name CHAR(20) NOT NULL,  
  price integer NOT NULL );
```

	item_no	quantity	i_name	price
▶	1	500	'Krabby Patty'	8.5
	2	400	'French Fries'	3.75
	3	300	'Krusty Milkshake'	4.2
	4	200	'Cakes'	3.5
	5	100	'Juice'	6.5
	6	600	'eggs'	7.5
	7	700	'french toast'	9.5
	8	800	'milk'	2.5
	9	900	'soda'	1.5
	10	90	'pancakes'	8.5
	11	80	'crepes'	7.5
	12	90	'chicken tenders'	7.5
	13	20	'salad'	6.5
	14	750	'rice'	8.5
	15	90	'onion rings'	5.5



CREATE TABLE- CUSTOMER

```
CREATE TABLE Customer(  
  customer_no CHAR(20) NOT NULL PRIMARY KEY,  
  c_name CHAR(20) NOT NULL,  
  contact_no CHAR(20) NOT NULL ,  
  address VARCHAR(100)  
);
```

	customer_no	c_name	contact_no	address
▶	1	'Angel'	'415-001-8976'	'001 Hot Street'
	10	'Mady'	'210-444-4444'	'999 Hayne Street'
	11	'Stela'	'210-222-4444'	'222 Diana Street'
	12	'Cary'	'310-234-2345'	'289 Fiscal Street'
	13	'Pady'	'210-234-2345'	'121 Fear Street'
	14	'Hail'	'210-234-1111'	'234 Ghost Street'
	15	'Rainy'	'230-444-4444'	'112 Monster Street'
	2	'Mary'	'650-556-8760'	'657 Sweet Street'
	3	'John'	'415-654-8776'	'234 Chilly Street'
	4	'Edwin'	'650-765-7689'	'333 Spicy Street'
	5	'Jim'	'415-654-1234'	'111 Sear Street'
	6	'Teddy'	'510-767-8769'	'222 Gear Street'
	7	'Joel'	'650-675-6453'	'333 Hello Street'
	8	'Bill'	'415-123-5678'	'121 Fella Street'
	9	'Sandy'	'510-222-3333'	'220 Della Street'



CREATE TABLE- RESTAURANT

```
CREATE TABLE Restaurant (  
  restaurant_no CHAR(20) NOT NULL PRIMARY KEY,  
  r_name CHAR (30) NOT NULL,  
  location VARCHAR(100) NOT NULL  
);
```

	restaurant_no	r_name	location
▶	'415-123-4567'	'Krusty Krab'	'123_underdog_Street'
	'415-143-6667'	'Krusty Fun'	'363_Crapdog_Street'
	'415-222-4467'	'Krusty Love'	'323_Streetdog_Street'



CREATE TABLE- BILL

```
CREATE TABLE Bill(  
  bill_no INTEGER NOT NULL PRIMARY KEY,  
  amount DOUBLE NOT NULL,  
  customer_no NOT NULL CHAR(20),  
  item_no NOT NULL INTEGER,  
  
  FOREIGN KEY (item_no) REFERENCES Item(item_no) ON  
  DELETE NO ACTION,  
  FOREIGN KEY (customer_no) REFERENCES  
  Customer(customer_no) ON DELETE NO ACTION  
);
```

	bill_no	amount	customer_no	item_no
▶	17	100.5	1	13
	18	50.5	2	12
	19	51.5	3	11
	20	52.5	4	10
	21	53.99	5	9
	22	54.99	6	8
	23	55.99	7	7
	24	56.99	8	6
	25	57.99	9	5
	26	58.99	10	4
	27	59.99	11	3
	28	60.99	12	2
	29	76.99	13	1
	30	78.99	14	14
	31	771.99	15	15



CREATE TABLE- MAKES

```
CREATE TABLE Makes(  
  restaurantNo NOT NULL CHAR(20),  
  itemNo NOT NULL INTEGER,  
  PRIMARY KEY (restaurantNo, itemNo),  
  FOREIGN KEY (itemNo) REFERENCES Item(item_no)  
  ON DELETE NO ACTION,  
  FOREIGN KEY (restaurantNo) REFERENCES  
  Restaurant(restaurant_no) ON DELETE NO ACTION  
);
```

	restaurantNo	itemNo
▶	'415-123-4567'	1
	'415-143-6667'	2
	'415-143-6667'	3
	'415-143-6667'	4
	'415-123-4567'	5
	'415-222-4467'	6
	'415-222-4467'	7
	'415-123-4567'	8
	'415-143-6667'	9
	'415-123-4567'	10
	'415-143-6667'	10
	'415-143-6667'	13
	'415-143-6667'	14



CREATE TABLE- ORDERS

```
CREATE TABLE Orders(  
item_no_o NOT NULL INTEGER,  
customer_no_o NOT NULL CHAR(20),  
PRIMARY KEY (customer_no_o, item_no_o),  
FOREIGN KEY (customer_no_o) REFERENCES  
Customer(customer_no) ON DELETE NO ACTION,  
FOREIGN KEY (item_no_o) REFERENCES Item(item_no) ON  
DELETE NO ACTION  
);
```

	item_no_o	customer_no_o
▶	1	13
	2	14
	3	15
	4	12
	5	11
	6	10
	7	9
	8	8
	9	7
	10	6
	11	5
	12	4
	13	3
	14	2
	15	1



CREATE TABLE- PAYS

```
CREATE TABLE Pays(  
  bill_no_no INTEGER NOT NULL,  
  customer_no_no CHAR(20) NOT NULL,  
  PRIMARY KEY (bill_no_no, customer_no_no),  
  FOREIGN KEY (bill_no_no) REFERENCES Bill(bill_no) ON  
  DELETE CASCADE,  
  FOREIGN KEY(customer_no_no) REFERENCES  
  Customer(customer_no_no) ON DELETE NO ACTION  
);
```

	bill_no_no	customer_no_no
▶	26	10
	27	11
	28	11
	27	12
	27	13
	28	14
	18	2
	19	3
	20	4
	20	5
	22	6
	22	7
	22	8
	25	9



CREATE TABLE- DINES IN

```
CREATE TABLE Dines_In(  
customer_n CHAR(20) NOT NULL,  
restaurant_n CHAR(20) NOT NULL,  
PRIMARY KEY (customer_n, restaurant_n),  
FOREIGN KEY (customer_n) REFERENCES  
Customer(customer_no) ON DELETE NO ACTION,  
FOREIGN KEY (restaurant_n) REFERENCES  
Restaurant(restaurant_no) ON DELETE NO ACTION  
);
```

	customer_n	restaurant_n
▶	1	'415-123-4567'
	10	'415-123-4567'
	2	'415-222-4467'
	3	'415-143-6667'
	4	'415-123-4567'
	5	'415-222-4467'
	6	'415-143-6667'
	7	'415-143-6667'
	8	'415-222-4467'
	9	'415-143-6667'



EXAMPLE- HOW MANY CUSTOMERS DINE IN EACH RESTAURANT

```
SELECT restaurant_n, count(restaurant_n)
FROM Dines_In
WHERE customer_n = ANY(SELECT customer_n
                        FROM Customer
                        WHERE customer_no>5)
GROUP BY restaurant_n
Order by count(restaurant_n);
```

	restaurant_n	count(restaurant...
▶	'415-123-4567'	3
	'415-222-4467'	3
	'415-143-6667'	4



EXAMPLE- WHAT ITEMS WERE MADE IN THIS RESTAURANT

```
SELECT I1.i_name
FROM Item I1
WHERE I1.item_no IN (SELECT M1.itemNo
                     FROM Makes M1
                     WHERE M1.restaurantNo = '\415-123-4567\'
                     and M1.itemNo=I1.item_no);
```

	i_name
▶	'Krabby Patty'
	'Juice'
	'milk'
	'pancakes'



EXAMPLES- WHAT ITEMS ARE MADE AT THIS RESTAURANT

```
SELECT I1.i_name  
FROM Item I1  
WHERE Exists (select *  
              FROM Makes M1  
              WHERE M1.restaurantNo = '\415-222-4467\' and  
M1.itemNo=I1.item_no);
```

	i_name
▶	'eggs'
	'french toast'



EXAMPLES- ITEM NUMBERS OF BILL AMOUNT OVER \$60

```
SELECT I1.item_no  
FROM Item I1  
WHERE Exists(SELECT *  
              FROM Bill B1  
              WHERE B1.amount>60 and B1.item_no=I1.item_no);
```

	item_no
▶	1
	2
	13
	14
	15

