<div align="center">

DS220: Data Management
Course Project Final Report
Group 3

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Database Implementation

1.   Create tables (Write SQL statements to create tables according to the table specification.)

```sql
CREATE  TABLE RESTAURANT(
 RestaurantID        INT         NOT NULL    IDENTITY(1,1)   PRIMARY KEY,
 RestaurantName      Char(50)    NOT NULL,
 RestaurantAddress   Char(200)   NOT NULL,
 RestaurantPhone     Char(10)    NULL
 );

CREATE  TABLE MENU(
 MenuID              INT         NOT NULL    IDENTITY(1,1)   PRIMARY KEY,
 MenuItem            Char(50)    NOT NULL,
 MenuItemCost        FLOAT       NOT NULL,
 RestaurantID        INT         NOT NULL,

 CONSTRAINT  MENU_RESTAURANT_FK  FOREIGN KEY(RestaurantID)
             REFERENCES RESTAURANT(RestaurantID)
                 ON UPDATE NO ACTION
                 ON DELETE NO ACTION
 );

CREATE  TABLE CUSTOMER(
 CustomerID          INT         NOT NULL    IDENTITY(1,1)   PRIMARY KEY,
 FirstName           Char(50)    NOT NULL,
 LastName            Char(50)    NOT NULL,
 CustomerPhone       Char(10)    NOT NULL,
 CustomerAddress     Char(200)   NOT NULL,
 );

CREATE  TABLE DRIVER(
 DriverID            INT         NOT NULL    IDENTITY(1,1)   PRIMARY KEY,
 DriverFirst         Char(50)    NOT NULL,
 DriverLast          Char(50)    NOT NULL
 );
```

```sql
CREATE  TABLE TRANSACTIONS(
TransactionID        INT          NOT NULL     IDENTITY(1,1)   PRIMARY KEY,
TotalCost            FLOAT        NOT NULL,
CustomerID           INT          NOT NULL,
RestaurantID         INT          NOT NULL,
DriverID             INT          NOT NULL,
MenuID               INT          NOT NULL,

CONSTRAINT   TRANSACTIONS_CUSTOMER_FK     FOREIGN KEY(CustomerID)
             REFERENCES CUSTOMER(CustomerID)
                 ON UPDATE NO ACTION
                 ON DELETE NO ACTION,

CONSTRAINT TRANSACTIONS_RESTAURANT_FK     FOREIGN KEY(RestaurantID)
             REFERENCES RESTAURANT(RestaurantID)
                 ON UPDATE NO ACTION
                 ON DELETE NO ACTION,

CONSTRAINT   TRANSACTIONS_DRIVER_FK   FOREIGN KEY(DriverID)
             REFERENCES DRIVER(DriverID)
                 ON UPDATE NO ACTION
                 ON DELETE NO ACTION,

CONSTRAINT   TRANSACTIONS_MENU_FK     FOREIGN KEY(MenuID)
             REFERENCES MENU(MenuID)
                 ON UPDATE NO ACTION
                 ON DELETE NO ACTION
);
```

```
CONSTRAINT  TRANSACTIONS_DRIVER_FK  FOREIGN KEY(DriverID)
            REFERENCES DRIVER(DriverID)
                 ON UPDATE NO ACTION
                 ON DELETE NO ACTION,

CONSTRAINT  TRANSACTIONS_MENU_FK    FOREIGN KEY(MenuID)
            REFERENCES MENU(MenuID)
                 ON UPDATE NO ACTION
                 ON DELETE NO ACTION
);
```

100 %

Messages

Commands completed successfully.

Completion time: 2022-04-21T11:21:08.4406533-04:00

100 %

Query executed successfully.   rs6539   00:00:00   0 rows

2.   Insert data (Write SQL statements to insert data into tables. You should have at least five data records for each table.)

```
INSERT INTO CUSTOMER VALUES('Alyssa', 'Sheffy', '7179262217', '649B Waupelani Dr State College, PA 16801');
INSERT INTO CUSTOMER VALUES('Miranda', 'Goodman', '8142298722', '791 S Pugh St State College, PA 16801');
INSERT INTO CUSTOMER VALUES('Gavin', 'Laurento', '5108122214', '42 N Allen St State College, PA 16801');
INSERT INTO CUSTOMER VALUES('Khaled', 'Al Hemeiri', '9172090812', '131 Heister St Apt. 411 State College, PA 16801');
INSERT INTO CUSTOMER VALUES('Katelyn', 'Swan', '7178746625', '646 E College Ave Apt. 218 State College, PA 16801');
INSERT INTO CUSTOMER VALUES('Danika', 'Boltz', '7175576252', '881 Apple Alley State College, PA 16801');
INSERT INTO CUSTOMER VALUES('Evan', 'Stricker', '6107635867', '712 S Allen St State College, PA 16801');
INSERT INTO CUSTOMER VALUES('Nick', 'Spellman', '9172316281', '922 W Prospect Ave State College, PA 16801');
INSERT INTO CUSTOMER VALUES('Emily', 'Maniscalco', '2156894344', '309 W Park Ave State College, PA 16801');
INSERT INTO CUSTOMER VALUES('Bill', 'Snyder', '6109116272', '698 Ridge Ave State College, PA 16801');
INSERT INTO CUSTOMER VALUES('Anna', 'Martin', '4219167354', '578 Tail Gate Ave State College, PA 16801');
INSERT INTO CUSTOMER VALUES('Belle', 'Anderson', '3261218473', '1340 Cambrdige Dr State College, PA 16801');
INSERT INTO CUSTOMER VALUES('Bob', 'Henney', '7245288774', '127 Levashire Heights State College, PA 16801');
INSERT INTO CUSTOMER VALUES('Lucy', 'Jefferson', '7068457833', '951 Farmstead Ln State College, PA 16801');
INSERT INTO CUSTOMER VALUES('Andy', 'Cutter', '7173287227', '23 S Park Hills Dr State College, PA 16801');
```

100 %

Messages

```
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Completion time: 2022-04-28T17:09:29.9780621-04:00
```

100 %

✓ Query executed successfully.   00:00:00   0 rows

```sql
INSERT INTO DRIVER VALUES('Sarah', 'Jenkins');
INSERT INTO DRIVER VALUES('Deonna', 'Myrtle');
INSERT INTO DRIVER VALUES('Mike', 'Doran');
INSERT INTO DRIVER VALUES('Jerry', 'Nollins');
INSERT INTO DRIVER VALUES('Pete', 'Poller');
INSERT INTO DRIVER VALUES('Amogh', 'Kimpur');
INSERT INTO DRIVER VALUES('Lilly', 'Nevins');
INSERT INTO DRIVER VALUES('Nina', 'Vasquez');
INSERT INTO DRIVER VALUES('Joshua', 'Noon');
INSERT INTO DRIVER VALUES('Katharine', 'Baker');
INSERT INTO DRIVER VALUES('Mickey', 'Mansfield');
INSERT INTO DRIVER VALUES('Jackie', 'Perdot');
INSERT INTO DRIVER VALUES('Nicole', 'Fields');
INSERT INTO DRIVER VALUES('Sean', 'Chen');
INSERT INTO DRIVER VALUES('James', 'McDonnell');
```

100 %

Messages

(1 row affected)

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Completion time: 2022-04-28T16:46:17.4459348-04:00

```sql
INSERT INTO RESTAURANT VALUES('Panera Bread', '148 S Allen St State College, PA 16801', '8148678883');
INSERT INTO RESTAURANT VALUES('Yallah Taco', '217 McAllister Alley State College, PA 16801', '8149548081');
INSERT INTO RESTAURANT VALUES('Chick-Fil-A', '1938 N Atherton St State College, PA 16801', '8142310900');
INSERT INTO RESTAURANT VALUES('Irvings', '110 E College Ave State College, PA 16801', '8142310604');
INSERT INTO RESTAURANT VALUES('Dominos', '1100 N Atherton St State College, PA 16801', '8142371414');
INSERT INTO RESTAURANT VALUES('Chipotle', '116 Hiester St State College, PA 16801', '8142310442');
INSERT INTO RESTAURANT VALUES('Uncle Chens Chinese', '430 E Calder Way State College, PA 16801', '8142381985');
INSERT INTO RESTAURANT VALUES('Snap Custom Pizza', '132 W College Ave State College, PA 16801', '8149547416');
```

100 %

Messages

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Completion time: 2022-04-28T17:48:21.8766928-04:00

100 %

Query executed successfully.   00:00:00   0 rows

```sql
INSERT INTO MENU VALUES('Chicken Noodle Soup', 4.67, 11);
INSERT INTO MENU VALUES('Broccoli Cheddar Soup', 5.99, 11);
INSERT INTO MENU VALUES('Frontega Chicken Sandwich', 6.29, 11);
INSERT INTO MENU VALUES('Chicken Rice Bowl', 7.99, 12);
INSERT INTO MENU VALUES('Chips and Guacamole', 3.99, 12);
INSERT INTO MENU VALUES('Chicken Nuggets', 2.75, 13);
INSERT INTO MENU VALUES('Original Chicken Sandwich', 6.98, 13);
INSERT INTO MENU VALUES('Spicy Deluxe Chicken Sandwich', 8.99, 13);
INSERT INTO MENU VALUES('Plain Bagel', 3.50, 14);
INSERT INTO MENU VALUES('Bacon, Egg, and Cheese Bagel', 5.60, 14);
INSERT INTO MENU VALUES('Large Cheese Pizza', 8.99, 15);
INSERT INTO MENU VALUES('Chicken Rice Bowl', 8.99, 16);
INSERT INTO MENU VALUES('Steamed Dumplings', 6.99, 17);
INSERT INTO MENU VALUES('Egg Drop Soup', 4.99, 17);
INSERT INTO MENU VALUES('Large Cheese Pizza', 10.99, 18);
```

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Messages

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Completion time: 2022-04-28T18:03:46.8676819-04:00

100 %

Query executed successfully.   ars6539   00:00:00   0 rows

```
INSERT INTO TRANSACTIONS VALUES(7.63, 7, 11, 6, 21);
INSERT INTO TRANSACTIONS VALUES(11.28, 8, 16, 7, 32);
INSERT INTO TRANSACTIONS VALUES(3.58, 9, 14, 8, 26);
INSERT INTO TRANSACTIONS VALUES(9.21, 10, 17, 9, 33);
INSERT INTO TRANSACTIONS VALUES(11.19, 11, 15, 10, 31);
INSERT INTO TRANSACTIONS VALUES(8.62, 12, 13, 11, 27);
INSERT INTO TRANSACTIONS VALUES(14.44, 13, 18, 12, 35);
INSERT INTO TRANSACTIONS VALUES(4.98, 14, 12, 13, 25);
INSERT INTO TRANSACTIONS VALUES(9.53, 15, 17, 14, 34);
INSERT INTO TRANSACTIONS VALUES(8.89, 16, 11, 15, 22);
INSERT INTO TRANSACTIONS VALUES(4.21, 17, 14, 16, 29);
INSERT INTO TRANSACTIONS VALUES(9.73, 18, 14, 17, 30);
INSERT INTO TRANSACTIONS VALUES(6.22, 19, 11, 18, 23);
INSERT INTO TRANSACTIONS VALUES(13.11, 20, 13, 19, 28);
INSERT INTO TRANSACTIONS VALUES(10.17, 21, 12, 20, 25);
```

100 %

Messages

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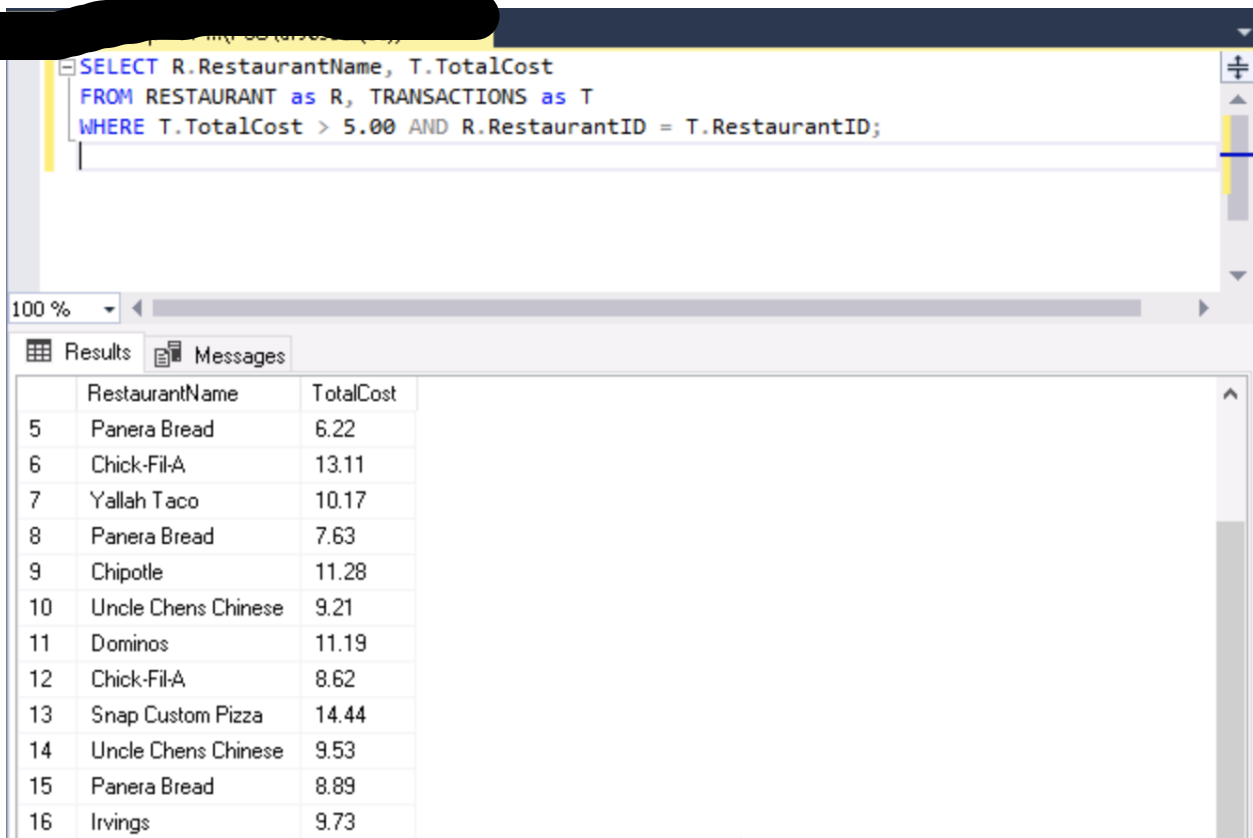
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Query executed successfully.   ars6539 | 00:00:00 | 0 rows

3.   **Queries** (**The basic requirement is to have at least five queries for your system. At least two functions need to join two or more tables. Please first describe the query in English, then write a SQL statement for that query.**)

 Note: For all the three parts above, i.e., create tables, insert data, and queries, show the screen shots of the SQL statements and the results from the statements using Microsoft SQL Server.

1. Retrieving Restaurant Names where the transaction totalCost was greater than $5
2. Retrieving Transaction IDs completed by driver Jerry
3. Find first name of drivers who delivered bagels

4. Find customer First and Last names who ordered a large cheese pizza
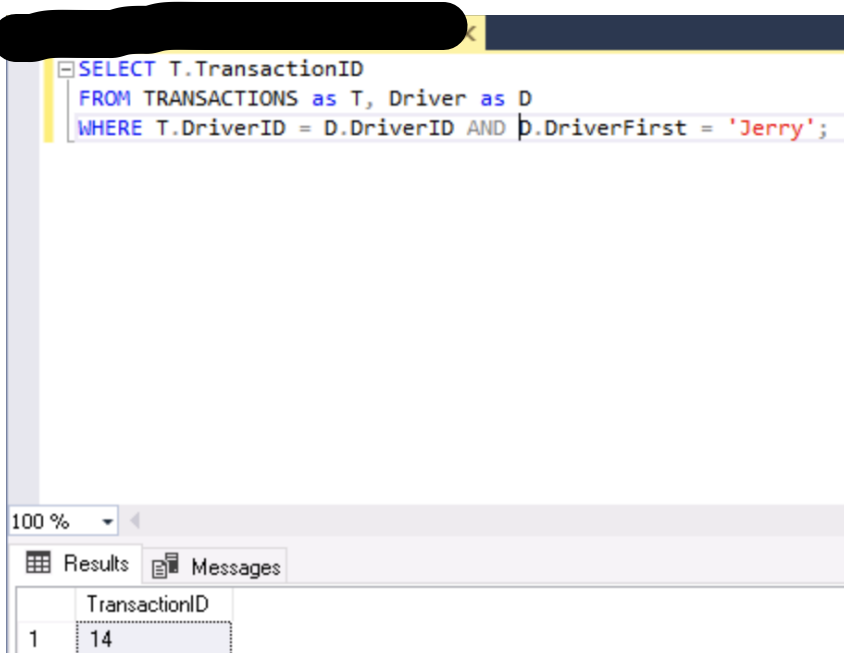5. Find how many customers bought food from Chick Fil A

```sql
SELECT R.RestaurantName, T.TotalCost
FROM RESTAURANT as R, TRANSACTIONS as T
WHERE T.TotalCost > 5.00 AND R.RestaurantID = T.RestaurantID;
```

100 %

Results | **Messages**

	RestaurantName	TotalCost
5	Panera Bread	6.22
6	Chick-Fil-A	13.11
7	Yallah Taco	10.17
8	Panera Bread	7.63
9	Chipotle	11.28
10	Uncle Chens Chinese	9.21
11	Dominos	11.19
12	Chick-Fil-A	8.62
13	Snap Custom Pizza	14.44
14	Uncle Chens Chinese	9.53
15	Panera Bread	8.89
16	Irvings	9.73

```sql
SELECT T.TransactionID
FROM TRANSACTIONS as T, Driver as D
WHERE T.DriverID = D.DriverID AND D.DriverFirst = 'Jerry';
```

100 %

Results | **Messages**

	TransactionID
1	14

```sql
SELECT D.DriverFirst
FROM DRIVER as D, TRANSACTIONS as T, MENU as M
WHERE D.DriverID = T.DriverID AND M.MenuID = T.MenuID AND M.MenuItem = 'Plain Bagel';
```

100 %

Results | **Messages**

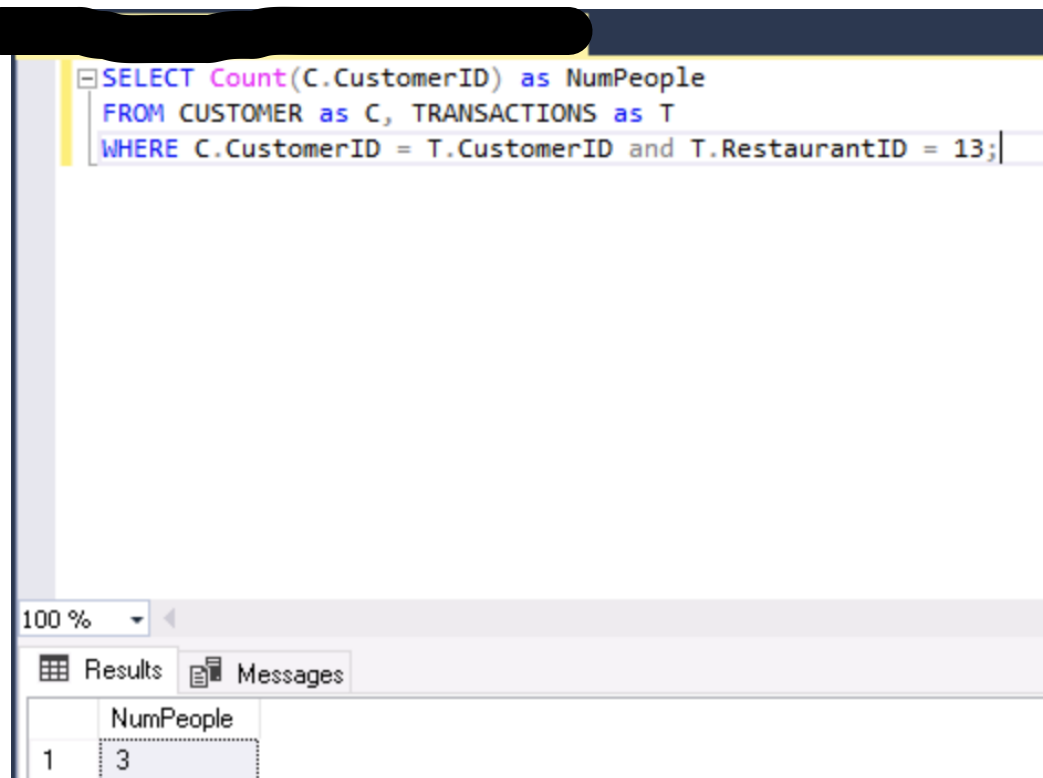|	DriverFirst
1	Amogh
2	Mickey

```sql
SELECT C.FirstName, C.LastName
FROM CUSTOMER as C, TRANSACTIONS as T, MENU as M
WHERE C.CustomerID = T.CustomerID AND M.MenuItem = 'Large Cheese Pizza' AND T.MenuID =
```

100 %

Results | **Messages**

	FirstName	LastName
1	Alyssa	Sheffy
2	Katelyn	Swan
3	Evan	Stricker

Query executed successfully. 00:00:00 | 3 rows

```sql
SELECT Count(C.CustomerID) as NumPeople
FROM CUSTOMER as C, TRANSACTIONS as T
WHERE C.CustomerID = T.CustomerID and T.RestaurantID = 13;
```

100 %

Results   Messages

	NumPeople
1	3

Group Activity Log on this report

clearly report time, activity, and attendance of each individual. Activity must involve details, not just saying "we had a meeting" or "we had a discussion".

Date and Time	Activity	Attendance
4/21/2022 10:35 – 11:50 AM	Created tables, inserted data	all team members
4/24/2022 12:00 - 1:30 pm	Wrote queries in English and SQL	all team members
4/28/2022 5:30 - 6:30 pm	Ran queries/debugged	All team members