Database Systems Coursework

Section 1:

Question 6 Code:

SELECT Customer.Company_name, COUNT(Issue.Caller_id) as cc

FROM Customer JOIN Caller ON (Customer.Company_ref = Caller.Company_ref) JOIN Issue ON (Caller.Caller_id = Issue.Caller_id)

GROUP BY Customer.Company_name

HAVING COUNT(Issue.Caller_id) > 18;

Question 6 Output:

```
+------------------+----+
| Company_name     | cc |
+------------------+----+
| Gimmick Inc.     | 22 |
| Hamming Services | 19 |
| High and Co.     | 20 |
+------------------+----+
```

Question 7 Code:

SELECT First_name, Last_name

FROM Caller

WHERE Caller_id NOT IN (SELECT Caller_id FROM Issue);

Question 7 Output:

```
+------------+-----------+
| First_name | Last_name |
+------------+-----------+
| David      | Jackson   |
| Ethan      | Phillips  |
+------------+-----------+
```

Question 8 Code:

SELECT cust.Company_name, c2.First_name, c2.Last_name, COUNT(i.Caller_id) as nc

FROM Customer cust JOIN Caller c1 ON (cust.Company_ref = c1.Company_ref) JOIN Issue i ON (c1.Caller_id = i.Caller_id) JOIN Caller c2 ON (cust.Contact_id = c2.Caller_id)

GROUP BY cust.Company_name, c2.First_name, c2.Last_name

HAVING COUNT(i.Caller_id) < 5;

Question 8 Output:

```
+--------------------+------------+-----------+----+
| Company_name       | First_name | Last_name | nc |
+--------------------+------------+-----------+----+
| Pitiable Shipping  | Ethan      | McConnell |  4 |
| Rajab Group        | Emily      | Cooper    |  4 |
| Somebody Logistics | Ethan      | Phillips  |  2 |
+--------------------+------------+-----------+----+
```

Question 9 Code:

SELECT Shift.Shift_date, Shift.Shift_type, COUNT(Shift.Shift_type) as cw

FROM Shift JOIN Staff ON (Staff.Staff_code IN (Shift.Manager, Shift.Operator, Shift.Engineer1, Shift.Engineer2))

GROUP BY Shift.Shift_date, Shift.Shift_type;

Question 9 Output:

```
+------------+------------+----+
| Shift_date | Shift_type | cw |
+------------+------------+----+
| 2017-08-12 | Early      |  4 |
| 2017-08-12 | Late       |  4 |
| 2017-08-13 | Early      |  3 |
| 2017-08-13 | Late       |  2 |
| 2017-08-14 | Early      |  4 |
```

| 2017-08-14 | Late | 4 |

| 2017-08-15 | Early | 4 |

| 2017-08-15 | Late | 4 |

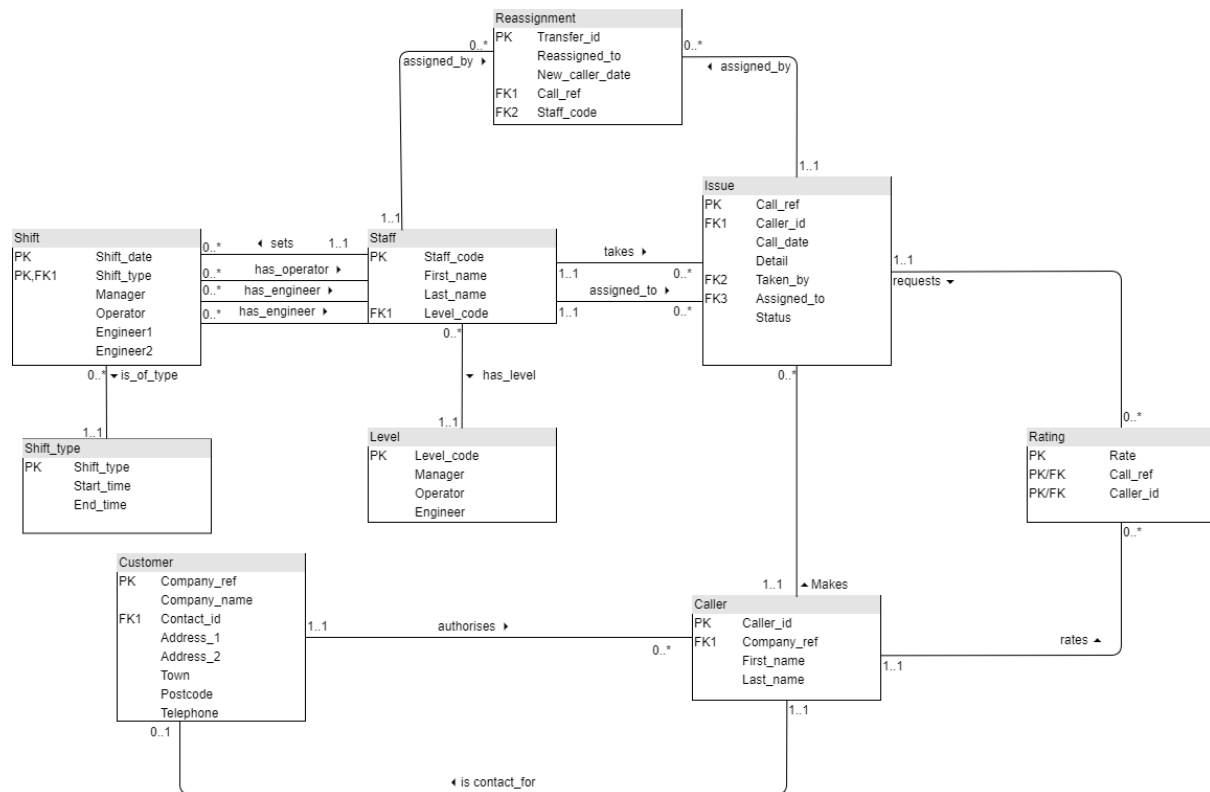| 2017-08-16 | Early | 4 |

| 2017-08-16 | Late | 4 |

Question 10 Code:

SELECT Staff.First_name, Staff.Last_name, Issue.Call_date

FROM Caller JOIN Issue ON (Caller.Caller_id = Issue.Caller_id) JOIN Staff ON (Issue.Taken_by = Staff.Staff_code)

WHERE Caller.First_name = 'Harry'

ORDER BY Issue.Call_date DESC limit 1;

Question 10 Output:

```
+------------+-----------+--------------------+
| First_name | Last_name | Call_date          |
+------------+-----------+--------------------+
| Emily      | Best      | 2017-08-16 10:25:00 |
+------------+-----------+--------------------+
```

Section 2:

ER Diagram:

Question 2(a):

ALTER TABLE Issue ADD COLUMN Caller_rate INT DEFAULT NULL;

ALTER TABLE Issue ADD COLUMN Customer rate INT DEFAULT NULL;

CREATE TABLE Reassignment (Transfer_id INT NOT NULL, Reassigned_to VARCHAR (25) NOT NULL, New_caller_date datetime, Call_ref INT, Staff_code VARCHAR(25), PRIMARY KEY(Transfer_id), FOREIGN KEY (Call_ref) REFERENCES Issue(Call_ref), FOREIGN KEY (Staff_code) REFERENCES Staff(Staff_code));

Question 2(b):

UPDATE Issue SET Caller_rate = 5 WHERE Call_ref = 1530;

UPDATE Issue SET Caller_rate = 1 WHERE Call_ref = 1531;

INSERT INTO Reassignment (Transfer_id,Reassigned_to, New_caller_date, Call_ref, Staff_code)

        VALUES(1,"AL1",'2017-08-16 15:50:00', 1707,"DJ1");

INSERT INTO Reassignment (Transfer_id,Reassigned_to, New_caller_date, Call_ref, Staff_code)

VALUES(2,"DJ1",'2017-08-17 08:00:00', 1707,"AL1");