

Task 2.1 Pictures

Q1

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5
6 -- Q1 - Add new customers
7
8 * INSERT INTO customer (Number, First_Name, Last_Name)
9   VALUES ('742', 'Julie', 'Henderson');
10
11 * INSERT INTO customer (Number, First_Name, Last_Name)
12   VALUES ('831', 'John', 'Flannery');
13
```

Output		
#	Time	Action
1	18:06:07	INSERT INTO customer (Number, First_Name, Last_Name) VALUES ('742', 'Julie', 'Henderson')
2	18:06:47	INSERT INTO customer (Number, First_Name, Last_Name) VALUES ('831', 'John', 'Flannery')

Q2

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13
14 -- Q2 - Assign one of the Reader employees to do next reading of some customers (at least 2)
15
16 * UPDATE meter
17   SET cur_reader_number = 4
18   WHERE ID = 3;
19
20 * UPDATE meter
21   SET cur_reader_number = 5
22   WHERE ID = 8;
23
24 -- Q3 - make one of the readers add a new reading from his assignments list. Note that when a new reading is completed
25 -- and if it is not the first reading for that customer a new bill will be issued, so create a bill for the entered
26 -- reading according to the previous reading
```

Output		
#	Time	Action
1	18:07:14	UPDATE meter SET cur_reader_number = 4 WHERE ID = 3
2	18:07:14	UPDATE meter SET cur_reader_number = 5 WHERE ID = 8

Q3

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24
25 -- Q3 - make one of the readers add a new reading from his assignments list. Note that when a new reading is completed
26 -- and if it is not the first reading for that customer a new bill will be issued, so create a bill for the entered
27 -- reading according to the previous reading
28
29 * UPDATE meter
30   SET cur_reading = 388
31   WHERE ID = 3;
32
33 * UPDATE meter
34   SET cur_reading_date = '2020-11-15'
35   WHERE ID = 3;
36
37 * UPDATE meter
38   SET Notes = null
39   WHERE ID = 3;
40
41 -- Q4 - deactivate the service for a customer at his current address. Note that deactivating the service will require
42 -- a new reading to be scheduled on the date of termination request. And new bill to be issued after the reading
```

Output		
#	Time	Action
1	18:07:45	UPDATE meter SET cur_reading = 388 WHERE ID = 3
2	18:07:45	UPDATE meter SET cur_reading_date = '2020-11-15' WHERE ID = 3
3	18:07:45	UPDATE meter SET Notes = null WHERE ID = 3

Q4

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29
30 -- Q4 - deactivate the service for a customer at his current address. Note that deactivating the service will require
31 -- a new reading to be scheduled on the date of termination request. And new bill to be issued after the reading
32
33 * ALTER TABLE contract
34   ADD COLUMN deactivation_date date;
35
36 * UPDATE contract
37   SET deactivation_date = '2020-11-15'
38   WHERE premise_number = 10;
39
40 * UPDATE meter
41   SET cur_reader_number = 4;
42   cur_reading_date = '2020-11-15';
43   cur_reading = 388;
44   Notes = null;
45   WHERE ID = 17;
46
47 * insert into bill (Number, Premise_Number, Customer_Number, Contract_Rate, Meter_Number, Bill_Date, Consumption, Bill_Amount, Balance)
48   values ('1005', '10', '1125', '9.38', '56', '2020-11-15', '56', '10', '10');
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Output		
#	Time	Action
1	18:03:59	ALTER TABLE contract ADD COLUMN deactivation_date date
2	18:03:59	UPDATE contract SET deactivation_date = '2020-11-15' WHERE premise_number = 10
3	18:03:59	UPDATE meter SET cur_reader_number = 4, cur_reading_date = '2020-11-15', cur_reading = 388, Notes = null WHERE ID = 17
4	18:03:59	insert into bill (Number, Premise_Number, Customer_Number, Contract_Rate, Meter_Number, Bill_Date, Consumption, Bill_Amount, Balance) values ('1005', '10', '1125', '9.38', '56', '2020-11-15', '56', '10', '10')

Task 2.2 Pictures

Q1

```
1 * USE UtilityCompany;
2
3 -- How many customer have a balance over 100
4 -- Q1
5
6 * select customer.first_name as 'First Name', customer.last_name as 'Last Name',
7   payment.bill_number, sum((bill.bill_amount) as Total_Billed, (bill.bill_amount - payment.Payment_Amount) as Balance from payment
8   INNER JOIN customer on customer.number = payment.Customer_Number
9   INNER JOIN bill on bill.number = payment.Bill_Number
10  group by payment.Bill_Number Having Balance > 100;
11
12 -- list all Current readings
13 -- Q2
14
15 * Select
16   reader.first_name as 'First Name', reader.last_name as 'Last Name',
17   cur_reader_number, meter.cur_reading, meter.cur_reading_date, Meter.number, premise.address, meter.notes
18   from meter
19   INNER JOIN reader on reader.number = meter.cur_reader_number
20   INNER JOIN premise on premise.number = meter.premise_number
21   where reader.number = meter.cur_reader_number and meter.cur_reader_number = '5' order by meter.cur_reading_date
22
23
24 -- list all previous readings
25 -- Q2 cont
```

First Name	Last Name	Bill Number	Total Billed	Balance
Kale	Gratton	1007	405.60	102.80

Question 2 is two part queries since there is current and previous readings

Q2

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15 * select
16   reader.first_name as 'First Name', reader.last_name as 'Last Name',
17   cur_reader_number, meter.cur_reading, meter.cur_reading_date, Meter.number, premise.address, meter.notes
18   from meter
19   INNER JOIN reader on reader.number = meter.cur_reader_number
20   INNER JOIN premise on premise.number = meter.premise_number
21   where reader.number = meter.cur_reader_number and meter.cur_reader_number = '5' order by meter.cur_reading_date
22
23
24 -- list all previous readings
25 -- Q2 cont
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First Name	Last Name	cur_reader_number	cur_reading	cur_reading_date	number	address	notes
Gasper	McCasill	5	612	2018-01-05	56	22509 Holmberg Point Canyon TX 79016	Need Reading
Gasper	McCasill	5	890	2018-02-05	56	22509 Holmberg Point Canyon TX 79016	need reading
Gasper	McCasill	5	830	2018-07-15	27	36 Laurel Center Canyon TX 79015	

Q2

cont.

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27 * select
28   reader.first_name as 'First Name', reader.last_name as 'Last Name',
29   prev_reader_number, meter.prev_reading, meter.prev_reading_date, Meter.number, premise.address, meter.notes
30   from meter
31   INNER JOIN reader on reader.number = meter.prev_reader_number
32   INNER JOIN premise on premise.number = meter.premise_number
33   where reader.number = meter.prev_reader_number and meter.prev_reader_number = '5' order by meter.prev_reading_date
34
35
36 -- List all reading and bills....etc
37 -- Q3
```

First Name	Last Name	prev_reader_number	prev_reading	prev_reading_date	number	address	notes
Gasper	McCasill	5	Need	Need	27	36 Laurel Center Canyon TX 79015	
Gasper	McCasill	5	612	2018-01-05	56	22509 Holmberg Point Canyon TX 79016	Need Reading
Gasper	McCasill	5	890	2018-01-05	56	22509 Holmberg Point Canyon TX 79016	need reading

Q3

```
39 * select distinct bill.number, bill.bill_date, payment.payment_amount,
40   payment.payment_date, cur_reading, Prev_reading, premise.address,
41   concat(customer.first_name, ' ', customer.last_name) as 'Cust Name'
42   from bill
43   INNER JOIN payment on Payment.id = bill.payment_number
44   INNER JOIN customer on customer.number = payment.Customer_Number
45   INNER JOIN premise on premise.number = customer.id
46   INNER JOIN meter on meter.number = premise.meter_number
47   where (customer.id = '5' on customer.id = '4');
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number	bill_date	payment_amount	payment_date	cur_reading	Prev_reading	address	Cust Name
1007	2018-10-21	100.00	2018-10-22	411	211	36 Laurel Center Canyon TX 79015	Kale Gratton
1001	2018-05-15	88.00	2018-05-20	670	411	36 Laurel Center Canyon TX 79015	Kale Gratton
1003	2018-06-15	126.91	2018-06-20	670	411	36 Laurel Center Canyon TX 79015	Kale Gratton
1004	2018-07-15	78.40	2018-07-16	670	411	36 Laurel Center Canyon TX 79015	Kale Gratton
1007	2018-10-21	100.00	2018-10-22	670	411	36 Laurel Center Canyon TX 79015	Kale Gratton
1001	2018-05-15	88.00	2018-05-20	830	670	36 Laurel Center Canyon TX 79015	Kale Gratton
1003	2018-06-15	126.91	2018-06-20	830	670	36 Laurel Center Canyon TX 79015	Kale Gratton
1004	2018-07-15	78.40	2018-07-16	830	670	36 Laurel Center Canyon TX 79015	Kale Gratton
1007	2018-10-21	100.00	2018-10-22	830	670	36 Laurel Center Canyon TX 79015	Kale Gratton
1001	2018-05-15	88.00	2018-05-20	1870	1350	07245 Dotte Junction Canyon TX ...	Kale Gratton
1003	2018-06-15	126.91	2018-06-20	1870	1350	07245 Dotte Junction Canyon TX ...	Kale Gratton
1004	2018-07-15	78.40	2018-07-16	1870	1350	07245 Dotte Junction Canyon TX ...	Kale Gratton
1007	2018-10-21	100.00	2018-10-22	1870	1350	07245 Dotte Junction Canyon TX ...	Kale Gratton

Q4

```
53 * select prev_reading, reader.first_name, reader.last_name,
54   prev_reading_date,
55   (select count(*) from meter
56    where prev_reader_number = '5'
57    and (prev_reading_date between '2018-05-15' and '2018-06-15'))
58   as 'Total number of Readings'
59   from meter
60   INNER JOIN reader on reader.number = meter.prev_reader_number
61   where prev_reader_number = '5'
62   and (prev_reading_date between '2018-05-15' and '2018-06-15')
63   and meter.prev_reader_number = reader.number;
64
```

prev_reading	first_name	last_name	prev_reading_date	Total number of Readings
411	Gervieve	Craghton	2018-05-15	2
670	Gervieve	Craghton	2018-06-15	2

Q5

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65 -- Q5
66 -- customer bill find list and last reading
67
68 * select bill.number as 'bill number', concat(reader.first_name, ' ', reader.last_name) as 'Cur Reader Name',
69   meter.cur_reader_number, meter.cur_reading,
70   select concat(reader.first_name, ' ', reader.last_name) from reader where meter.prev_reader_number = reader.number) as 'Prev Reader Name',
71   meter.prev_reader_number, meter.prev_reading
72   from meter
73   INNER JOIN bill on bill.premise_number = meter.premise_number
74   INNER JOIN reader on reader.number = meter.cur_reader_number
75   where bill.number = '1005' and meter.id = '15';
76
77
78 -- Q6
79 -- Kale Gratton has the highest consumption at avg of 284
```

Bill Number	Cur Reader Name	cur_reader_number	cur_reading	Prev reader name	prev_reader_number	prev_reading
1005	Gasper McCasill	5	612	Cheryle Buey	6	341

Q6

```
78 -- Q6
79 -- Kale Gratton has the highest consumption at avg of 284
80
81 * select avg(consumption) as consumption, bill_date, customer.number,
82   concat(customer.first_name, ' ', customer.last_name) as 'Cust Name' from bill
83   INNER JOIN customer on customer.number = bill.customer_number
84   where bill_date < '2019-11-23'
85   group by customer.number
86
87
88 -- Q7
89 -- Avg of all consuptions between two dates
90
91 * select avg(consumption) as consumption
92   from bill
93   where bill_date between '2018-05-15' and '2018-06-15';
94
```

consumption	bill_date	customer_number	Cust Name
284.7500	2018-05-15	454	Kale Gratton
296.3333	2018-06-15	1010	Barb Sward
274.5000	2017-12-04	1125	Rose Falvey

Q7

```
87
88 -- Q7
89 -- Avg of all consuptions between two dates
90
91 * select avg(consumption) as consumption
92   from bill
93   where bill_date between '2018-05-15' and '2018-06-15';
94
```

consumption
246.0000

Q8

```
95 -- Q8
96 -- what customers are above average Ruperta Horswood is above average
97
98 * select avg(consumption) as consumption,
99   concat(customer.first_name, ' ', customer.last_name) as 'Cust Name'
100   from bill
101   where bill_date between '2018-05-15' and '2018-06-15';
102
```

consumption	Cust Name
209.0000	Johnath Dun
296.3333	Kale Gratton
330.0000	Ruperta Horswood