Last Name: First Name: Student ID:

Q1.

a) [7 pts] SQL Query:

```sql
1    SELECT Distinct p1.phlid, p1.name, MAX(e1.start) FROM    PHLogger p1,
2                                        Thought t1,
3                                        About a1,
4                                        Interest i1,
5                                        Event e1,
6                                        Member m1
7    where    p1.phlid = t1.phlid and
8             p1.phlid = e1.phlid and
9             p1.phlid = a1.phlid and
10            m1.phlid = p1.phlid and
11
12            i1.iname = m1.iname and
13            i1.topic = "alcoholism" and
14            t1.text LIKE '%wasted%'
15            group by p1.phlid
16            order by p1.phlid asc
17
```

b) [3 pts] Result: (8 Rows)

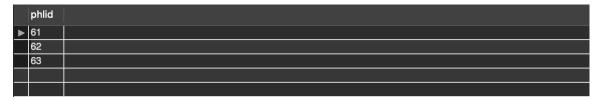| phlid	name	MAX(e1.start)	
32	Michell Sipes	2019-03-05 12:25:15	
37	Connie Kirlin	2019-04-27 17:39:26	
38	Clark Nader	2019-04-15 12:49:36	
44	Camellia Hoeger	2019-03-26 15:20:39	
54	Randall Lubowitz	2019-04-09 03:44:34	
58	Dallas Boehm	2019-04-16 08:41:19	
76	Vivian Schumm	2019-04-25 05:03:12	
91	Robt Donnelly	2019-04-24 20:13:01	

Q2.

a) [7 pts] SQL Query:

```
1   SELECT distinct p1.phlid from PHLogger p1, Observer o1, Observer o2
2   where
3       o1.phlid = p1.phlid
4       group by o1.phlid
5       HAVING COUNT(distinct o1.kind) = (SELECT COUNT(distinct o2.kind));
6
```

b) [3 pts] Result: (3 Rows)

phlid	
61	
62	
63	

Q3.

a) [7 pts] SQL Query:

```sql
1 ●    SELECT count(distinct p1.phlid) from PHLogger p1, Member m1, Interest i1
2      where  p1.phlid = m1.phlid and
3        m1.iname = i1.iname and
4             (p1.phlid not in (select distinct a1.phlid FROM About a1
5      WHERE a1.phlid = p1.phlid AND a1.iname = i1.iname));
```

b) [3 pts] Result: (1 Row)

count(distinct p1.phlid)	
85	

Q4. [20 pts]

a) [10pts] Create view statement:

```
1  DROP VIEW IF EXISTS Heart_rate_view;
2  CREATE VIEW Heart_rate_view AS
3  SELECT o1.observation_id, p1.phlid, p1.name, o1.rate, o2.manufacturer, o2.model, o2.kind,o2.software_version
4  FROM Observable o1, Observer o2, PHLogger p1
5  where
6      p1.phlid = o2.phlid and
7      o2.observer_id = o1.observer_id and
8      o1.kind = 'heartrate';
```

b) [10 pts] SQL query:

```
2  SELECT o1.observation_id, p1.phlid, p1.name, o1.rate as part_b, o2.manufacturer, o2.model, o2.kind,o2.software_version as Heart_rate_view
3  FROM Observable o1, Observer o2, PHLogger p1
4  where
5      p1.phlid = o2.phlid and
6      o2.observer_id = o1.observer_id and
7      o1.kind = 'heartrate';
8
9  SELECT p1.phlid, p1.name, h1.kind, h1.manufacturer, h1.model, h1.software_version,
10 avg(part_b), table1.a1
11
12 FROM heart_rate_view h1, phlogger p1, (SELECT phlid, AVG(part_b) AS a1 FROM heart_rate_view GROUP BY phlid) AS table1
13
14 where p1.phlid = h1.phlid and p1.phlid = table1.phlid
15 group by h1.phlid, h1.kind, h1.manufacturer, h1.model, h1.software_version
16 having avg(part_b) < table1.a1 * 0.8;
17
```

Result: (3 rows)

phlid	name	kind	manufacturer	model	software_version	avg(part_b)	a1
98	Alonso Greenfelder	smartwatch	Sony	Model 7	4.8	61.0000	81.8000
7	Arianne Volkman	camera	Google	Model 2	8.6	63.0000	82.1000
35	Robby Crist	smartphone	Microsoft	Model 4	10.3	61.0000	76.4286

4

Q 5. Stored Procedures [20 pts]

a) [15pts] Create procedure statement:

```sql
DROP PROCEDURE IF EXISTS AddThought;
DELIMITER $$
CREATE PROCEDURE AddThought (
    phlid VARCHAR(8),
    iname VARCHAR(20),
    text VARCHAR(300)
)
BEGIN
    DECLARE NewThoughtNum INTEGER;
    SET NewThoughtNum = (SELECT IFNULL(MAX(tnum)+1, 0) FROM Thought WHERE Thought.phlid = phlid);
    INSERT INTO About (phlid, tnum, iname) VALUES (phlid, NewThoughtNum, iname);
    INSERT INTO Thought (phlid, tnum, text, date) VALUES (phlid, NewThoughtNum, text, CURRENT_TIME());
END $$
DELIMITER ;
```

b) [5 pts] Result:

phlid	tnum	iname	phlid	tnum	text	date	
1	8	alcoholism 0	1	8	PHLogger APP IS THE BE…	2019-05-20 18:17:57	

5

Q 6. Alter Table[10 pts]

a) [5 pts] Alter table statement:

```
1  *    alter table thought drop foreign key thought_ibfk_1;
```

b) [5 pts] Result:

count(*)
5

Q7. Triggers [20 pts]

a) [5pts] Create trigger statement:

```
 1       delimiter $$
 2   ☀   CREATE TRIGGER checkPhlid
 3       AFTER INSERT ON THOUGHT
 4       FOR EACH ROW
 5   ⊖ BEGIN
 6   ⊖     IF NEW.phlid NOT IN (SELECT phlid FROM phlogger) THEN
 7           SIGNAL SQLSTATE '02000'
 8                     SET MESSAGE_TEXT =
 9                     'ERROR: PHLogger does not exist!';
10         END IF;
11   └ END;$$
12       delimiter ;
13
14
```

b) [10 pts] Create trigger statement:

```
  delimiter $$
▸ CREATE TRIGGER greet
  AFTER INSERT ON PHLogger
  FOR EACH ROW
⊖ BEGIN
      DECLARE CreateIName VARCHAR(20);
      SET CreateIName = (SELECT iname FROM Interest ORDER BY RAND());
      INSERT INTO Member (phlid, iname) VALUES (NEW.phlid, RandName);
      call AddThought(NEW.phlid, RandName, "Hello!");  ##need run after the function declrartion
└ END;$$
  delimiter ;
```

c) [5 pts] Result:

phlid	iname
NULL	NULL