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1. [12.5pts] For all PHLoggers who live in 'NY', list their name and street address.

a) [9pts] SQL Query:

```
1  Select p1.name, p1.address_street from cs122a_sp19.PHLogger p1
2  where address_state = 'NY';
```

b) [3.5pts] Result: (2 Rows)

name	address_street	
Suzi Kessler	Nader Drives	
Rueben MacGyver	Danna Route	

2. [12.5pts] List the name of all PHLoggers who have posted a thought about an interest group they are part of which has a topic of ‘’exercise’.

a) [9pts] SQL Query:

```
Select distinct p1.name from cs122a_sp19.PHLogger p1, cs122a_sp19.Thought t1, cs122a_sp19.About a1, cs122a_sp19.Interest i1, cs122a_sp19.Member m1
where p1.phlid = t1.phlid
and a1.phlid = t1.phlid
and a1.tnum = t1.tnum
and a1.iname = i1.iname
and m1.phlid = p1.phlid
and m1.iname = i1.iname
and i1.topic = 'exercise'
```

b) [3.5pts] Result: (4 Rows)

name
Merilyn Dickens
Venus Lueilwitz
Charlena Rath
Mac Maggio

3. [12.5pts] Find the name of PHLoggers who have more than 4 events associated with them.

a) [9pts] SQL Query:

```
1  select p1.name from cs122a_sp19.PHLogger p1, cs122a_sp19.Event e1
2  where
3  e1.phlid = p1.phlid
4  group by p1.name
5  having COUNT(*) > 4;
```

b) [3.5pts] Result: (5 Rows)

name
Sean Lowe
Marine Breitenberg
Mac Maggio
Mallory Carter
Elliott Dibbert

4. [12.5pts] For all observers of kind ‘smartwatch’ and who have reported heart rate observations with the highest value, list their observer id and their manufacturer.

a) [9pts] SQL Query:

```
select o1.observer_id, o1.manufacturer from cs122a_sp19.Observer o1, cs122a_sp19.Observable o2
where o1.kind = 'smartwatch'
and o1.observer_id = o2.observer_id
and o2.rate = (select max(o3.rate) from cs122a_sp19.Observable o3)
```

b) [3.5pts] Result: (3 Rows)

	13	Microsoft	
	144	Google	
	164	Google	

5. [12.5pts] List PHLoggers who have made a PHLG observation that contains the word ‘yoga’ or posted a thought that contains the word ‘hiking’

a) [9pts] SQL Query:

```
select * from cs122a_sp19.PHLogger p3
where p3.phlid in
((select p1.phlid
from cs122a_sp19.PHLogger p1, cs122a_sp19.Observation o1 ,cs122a_sp19.PHLG_obs phlg1
where
p1.phlid = o1.phlid
and o1.observation_id = phlg1.observation_id
and phlg1.text LIKE '%yoga%')
union
(select p2.phlid
from cs122a_sp19.PHLogger p2,cs122a_sp19.Thought t1
where
p2.phlid = t1.phlid
and t1.text LIKE '%hiking%'));
```

b) [3.5pts] Result: (6 Rows)

phlid	name	address_street	address_city	address_state	address_pcode
38	Clark Nader	Tatyana Shoals	Lake Cathy	PA	70702
6	Mac Maggio	Shandi Rapid	Gorczanyberg	AL	08420
14	Misty Reynolds	Pfannerstill Motorway	West Chasetown	NE	92565
15	Ludivina Bergnaum	Lakin Lights	Lake Pete	SD	67844-5689
34	Renaldo Walsh	Kunze Rapids	Ivorystad	AZ	82748-6800
58	Dallas Boehm	Johnie Point	North Tobyview	VA	79147-1219

6. [12.5pts] For each Observer whose manufacturer is ‘Apple’ and that has made more than 3 blood pressure observations, list the observer id and the number of blood pressure observations made.

a) [9pts] SQL Query:

```
1  select Distinct o1.observer_id, count(o2.observation_id)
2  from cs122a_sp19.Observer o1, cs122a_sp19.Observable o2
3  where
4  o1.manufacturer = 'Apple'
5  and o1.observer_id = o2.observer_id
6  and o2.kind = 'bloodpressure'
7  group by o1.observer_id
8  having count(*) > 3
```

b) [3.5pts] Result: (14 Rows)

observer_id	count(o2.observation_id)
103	7
134	4
135	4
139	4
140	4
145	6
166	4
170	4
176	4
177	6
196	4
23	4
60	6
74	5

7. [12.5pts] Find the eid and ename of Events that are associated with Observations that lasted longer than 1 minute and 55 seconds. (Hint: use TIMEDIFF())

a) [9pts] SQL Query:

```
select distinct e.eid, e.ename
from cs122a_sp19.Event e, cs122a_sp19.Observation o,cs122a_sp19.Indicate i
where
e.phlid = o.phlid
and i.eid = e.eid
and i.observation_id = o.observation_id
and timediff(o.end, o.start) > '00:01:55';
```

b) [3.5pts] Result: (7 Rows)

eid	ename
101	emailing
103	captivated
189	jet skiing
190	rafting
60	agitated
68	stretching
69	meeting

8. [12.5pts] For Users who have a heart rate observation with a rate equal to 65 and a blood pressure observation that was made at the same time, list the users' phlid, diastolic, systolic and the time when the observations were made (i.e., started). Note: Users may appear multiple times in the solution.

a) [9pts] SQL Query:

```
select u.phlid, c1.diastolic, c1.systolic, c2.start
from user u,
(select o1.phlid, o1.start from cs122a_sp19.Observation o1, cs122a_sp19.Observable o2
where o1.observation_id = o2.observation_id
and o2.rate = 65
and o2.kind = 'heartrate') as c2,

(select o3.phlid, o3.start, o4.diastolic,o4.systolic from cs122a_sp19.observation o3, cs122a_sp19.observable o4
where o3.observation_id = o4.observation_id
and o4.kind = 'bloodpressure') as c1

where u.phlid = c2.phlid and u.phlid = c1.phlid and c1.start = c2.start
```

b) [3.5pts] Result: (16 Rows)

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Result Grid | Filter Rows: Search | Export:

phlid	diastolic	systolic	start
72	138	173	2019-03-02 20:00:00
76	78	145	2019-03-03 03:30:00
59	83	157	2019-03-04 07:00:00
75	96	195	2019-03-06 16:30:00
8	132	148	2019-03-08 13:00:00
34	94	144	2019-03-12 10:00:00
24	97	195	2019-03-13 13:00:00
103	80	199	2019-03-16 05:00:00
50	118	124	2019-03-16 06:30:00
94	95	134	2019-03-16 15:00:00
79	103	143	2019-03-16 18:30:00
60	110	157	2019-03-17 19:00:00
64	86	166	2019-03-19 05:00:00
43	94	102	2019-03-20 04:00:00
94	62	185	2019-03-20 05:00:00
72	77	120	2019-03-21 06:00:00