

```
--ASSIGNMENT 3
--JOHN HODSON
-----
```

```
--1
--SQL FOR QUESTION 1
-----
```

```
SELECT DISTINCT p.name
FROM CLIMBED c, PARTICIPATED p
WHERE c.PEAK = "Pilot Knob (S)" AND
      c.trip_id = p.TRIP_ID;
-----
```

```
--2
--SQL FOR QUESTION 2
-----
```

```
SELECT DISTINCT c.peak
FROM PARTICIPATED p, climbed c
WHERE p.name = "MARK" AND
      p.trip_id = c.trip_id;
-----
```

```
--3
--SQL FOR QUESTION 3
-----
```

```
SELECT DISTINCT p.name
FROM PEAK m, CLIMBED c, PARTICIPATED p
WHERE m.diff = 5 AND
      c.PEAK = m.name AND
      p.TRIP_ID = c.trip_id;
-----
```

```
--4
--SQL FOR QUESTION 4
-----
```

```
SELECT m.name
FROM PEAK m, CLIMBED c
WHERE m.name = c.peak
GROUP BY m.NAME
HAVING COUNT(c.trip_id) = 1;
-----
```

```
--5
--SQL FOR QUESTION 5
-----
```

```
SELECT DISTINCT m.NAME
FROM CLIMBED c, PARTICIPATED p, PEAK m
WHERE c.TRIP_ID = p.trip_id AND
      p.NAME = "JOHN" AND
      c.PEAK = m.NAME AND
      m.ELEV > 14000;
-----
```

```
--6
--SQL FOR QUESTION 6
-----
```

```
SELECT m.map
FROM PEAK m
GROUP BY m.map
HAVING MAX(m.ELEV) - MIN(m.ELEV) > 2000;
-----
```

```
--7
```

--SQL FOR QUESTION 7

```
-----
SELECT MAP, AVG(ELEV) AVG_ELEV
FROM PEAK
GROUP BY MAP
ORDER BY AVG_ELEV DESC;
-----
```

--8
--SQL FOR QUESTION 8

```
-----
CREATE VIEW MARK AS
SELECT DISTINCT c2.peak
FROM PARTICIPATED p2, climbed c2
WHERE p2.name = "MARK" AND
      p2.trip_id = c2.trip_id;

SELECT DISTINCT c.peak
FROM PARTICIPATED p, climbed c, MARK m
WHERE p.name = "MARY" AND
      p.trip_id = c.trip_id AND
      c.peak = m.peak;

DROP VIEW MARK;
-----
```

--9
--SQL FOR QUESTION 9

```
-----
CREATE VIEW PEAKS_CLIMBED AS
SELECT DISTINCT m.NAME
FROM PEAK m, CLIMBED c
WHERE m.NAME = c.PEAK;

CREATE VIEW PEAKS_UNCLIMBED AS
SELECT NAME
FROM PEAK
EXCEPT -- SQLite's version of the minus operator
SELECT name
FROM PEAKS_CLIMBED;

SELECT REGION, count(m2.NAME) AS NUM_UNCLIMBED
FROM PEAK m2, PEAKS_UNCLIMBED pu
WHERE m2.NAME = pu.NAME
GROUP BY REGION;

DROP VIEW PEAKS_UNCLIMBED;
DROP VIEW PEAKS_CLIMBED;
-----
```

--10
--SQL FOR QUESTION 10

```
-----
SELECT c.TRIP_ID
FROM CLIMBED c, PARTICIPATED p, PEAK m
WHERE c.TRIP_ID = p.TRIP_ID AND
      m.name = c.PEAK
GROUP BY c.trip_id
HAVING sum(ELEV) > 500000;
-----
```

--11
--SQL FOR QUESTION 11

```
-----
CREATE VIEW PEAK_COUNT_BY_SEX AS
```

```

SELECT c1.SEX, COUNT(p.TRIP_ID) PEAK_COUNT
FROM CLIMBER c1, PARTICIPATED p, CLIMBED c
WHERE c1.NAME = p.NAME AND
      c.TRIP_ID = p.TRIP_ID
GROUP BY c1.SEX;

```

```

CREATE VIEW CLIMBER_COUNT_BY_SEX as
SELECT SEX, COUNT(NAME) CLIMBER_COUNT
FROM CLIMBER c1
GROUP BY SEX;

```

```

SELECT ccbs.SEX, CAST(PEAK_COUNT AS FLOAT)/CLIMBER_COUNT AVG_PEAKS
FROM CLIMBER_COUNT_BY_SEX ccbs, PEAK_COUNT_BY_SEX pcbs
WHERE ccbs.SEX = pcbs.SEX;

```

```

DROP VIEW CLIMBER_COUNT_BY_SEX;
DROP VIEW PEAK_COUNT_BY_SEX;

```

```

--12
--SQL FOR QUESTION 12

```

```

CREATE VIEW MARIA AS
SELECT DISTINCT c.peak
FROM PARTICIPATED p, climbed c
WHERE p.name = "MARIA" AND
      p.trip_id = c.trip_id;

```

```

CREATE VIEW OTHERS AS
SELECT DISTINCT p.NAME, c.PEAK
FROM PARTICIPATED p, CLIMBED c
WHERE p.TRIP_ID = c.TRIP_ID;

```

```

SELECT NAME
FROM MARIA m, OTHERS o
WHERE m.PEAK = o.PEAK AND
      o.NAME != "MARIA"
GROUP BY o.NAME
HAVING COUNT(o.PEAK) = (SELECT count(m2.PEAK) FROM MARIA m2);

```

```

DROP VIEW MARIA;
DROP VIEW OTHERS;

```

```

--13
--SQL FOR QUESTION 13

```

```

CREATE VIEW TOTAL_PEAKS_CLIMBED_BY_REGION AS
SELECT REGION, count(NAME) AS TOTAL_PEAKS_CLIMBED
FROM PEAK m2
WHERE m2.NAME IN (SELECT DISTINCT m.NAME
                  FROM PEAK m, CLIMBED c
                  WHERE m.NAME = c.PEAK)
GROUP BY REGION;

```

```

CREATE VIEW TOTAL_PEAKS_BY_REGION AS
SELECT REGION, count(NAME) AS TOTAL_PEAKS
FROM PEAK m
GROUP BY REGION;

```

```

SELECT REGION, MAX(FRACTION_CLIMBED) LARGEST_FRACTION_CLIMBED
FROM (SELECT tp.REGION, CAST(TOTAL_PEAKS_CLIMBED AS FLOAT)/TOTAL_PEAKS FRACTION_CLIMBED
      FROM TOTAL_PEAKS_BY_REGION tp, TOTAL_PEAKS_CLIMBED_BY_REGION pc
      WHERE tp.REGION = pc.REGION
      GROUP BY tp.REGION);

```

```

DROP VIEW TOTAL_PEAKS_BY_REGION;

```

```
DROP VIEW TOTAL_PEAKS_CLIMBED_BY_REGION;
```

```
-----
```

```
--14
```

```
--SQL FOR QUESTION 14
```

```
-----
```

```
CREATE VIEW GROUPS AS
```

```
SELECT p1.NAME NAME1, p2.NAME NAME2, p1.TRIP_ID TRIP_ID
```

```
FROM PARTICIPATED p1, PARTICIPATED p2
```

```
WHERE p1.TRIP_ID = p2.TRIP_ID AND
```

```
    p1.NAME < p2.NAME; -- get unique pairs who went on the same trip
```

```
SELECT NAME1, NAME2, MAX(PEAKS_CLIMBED) PEAKS_CLIMBED
```

```
FROM (SELECT NAME1, NAME2, COUNT(c.PEAK) PEAKS_CLIMBED
```

```
    FROM GROUPS g, CLIMBED c
```

```
    WHERE g.TRIP_ID = c.TRIP_ID
```

```
    GROUP BY NAME1, NAME2);
```

```
DROP VIEW GROUPS;
```

```
-----
```

--1

JOHN
MARK
MICHAEL

--2

Center Peak
North Maggie Mountain
Whaleback
Kearsarge Peak
Lion Rock
Midway Mountain
Mount Hale
Mount Langley
Pilot Knob (S)
Dragon Peak
Mount Barnard
Mount Guyot
Mount Newcomb
South Guard
Thor Peak
Angora Mountain
Florence Peak
Joe Devel Peak
Mount McAdie
Mount Rixford
Muah Mountain
Olancho Peak
Moses Mountain
Mount Williamson
Needham Mountain

--3

DONNA
ELIZABETH
JOHN

--4

Angora Mountain
Cartago Peak
Center Peak
Coyote Peaks
Crag Peak
Dragon Peak
Kern Peak
Lamont Peak
Lone Pine Peak
Mount Barnard
Mount Bradley
Mount Clarence King
Mount Gardiner
Mount Geneva
Mount LeConte
Mount Muir
Mount Pickering
Mount Stanford (S)
Mount Whitney
North Guard
North Maggie Mountain
Owens Peak
Pilot Knob (S)
Spanish Needle
Triple Divide Peak
University Peak
Vandever Mountain

--5

Mount Langley
Mount Whitney

--6

Kearsarge Peak
Mount Whitney

--7

Mt Williamson|13747.777777778
Mt Langley|13561.0
Mount Whitney|13493.277777778
Mt Brewer|13334.3571428571
Mt Kaweah|12945.0
Cirque Peak|12900.0
Mt Clarence King|12838.375
Triple Divide Peak|12657.375
Mineral King|12280.4
Sphinx Lakes|11717.0
Kern Peak|11510.0
Olancho|11301.5
Lodgepole|11240.0
Mt Silliman|11188.0
Bartlett|11016.0
Kern Lake|10545.0
Sirretta Peak|9977.0
Moses Mtn|9782.5
Monache Mtn|9533.0
Crag Peak|9480.0
Silver City|9023.0
Cannell Peak|8802.0
Kearsarge Peak|8550.6666666667
Owens Peak|8453.0
Rockhouse Basin|8360.0
Ninemile Canyon|8000.0
Lament Peak|7635.0
Onyx|6200.0

--8

Kearsarge Peak
Mount Guyot
Mount Langley
Muah Mountain
Olancho Peak
Thor Peak
Needham Mountain
Mount Hale
Mount Rixford
Midway Mountain
Moses Mountain
South Guard
Joe Devel Peak
Mount McAdie
Mount Newcomb
Mount Williamson
Dragon Peak
Mount Barnard
Lion Rock

--9

Corocoran to Whitney|1
Great Western Divide|3
Kaweahs and West|9
Kearsarge Pass|4
Kings Kern Divide|6
Mineral King|1
Olancho to Langley|3
Southern Sierra|3
Whitney to Williamson|5

--10

8
13

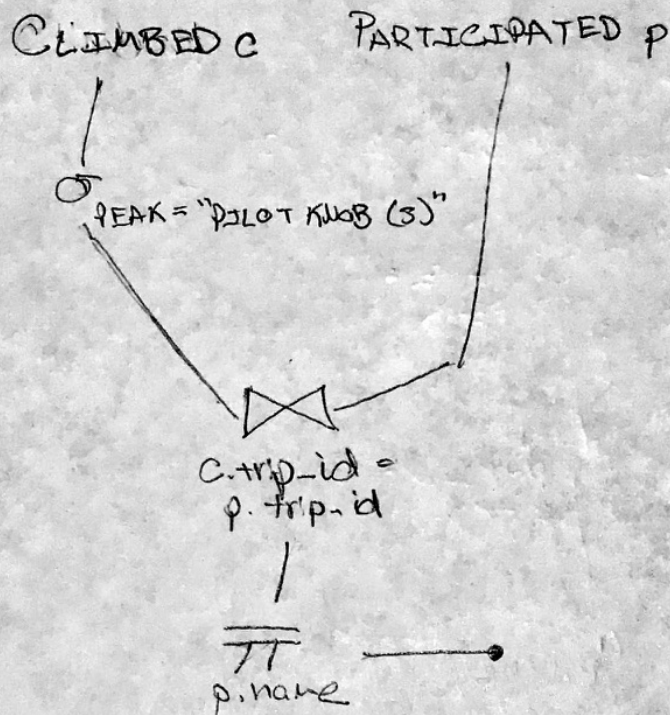
--11
F|21.8181818181818
M|15.2307692307692

--12
KENNETH
MARY

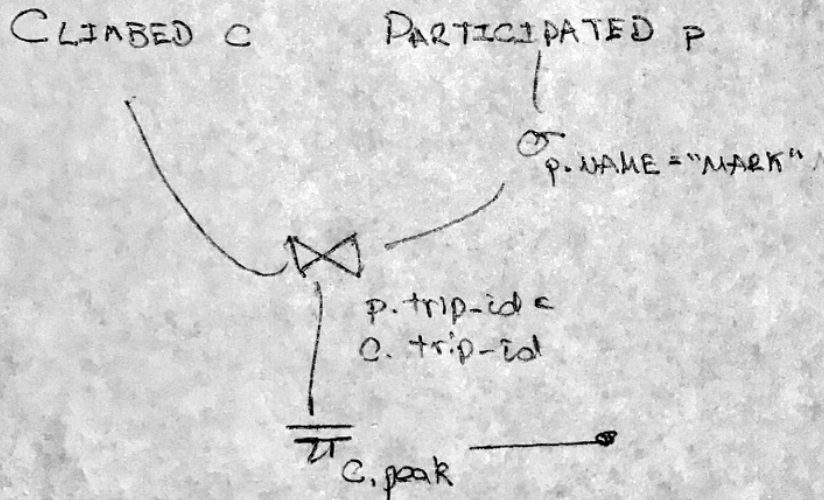
--13
Mineral King|0.9

--14
KENNETH|MARY|40

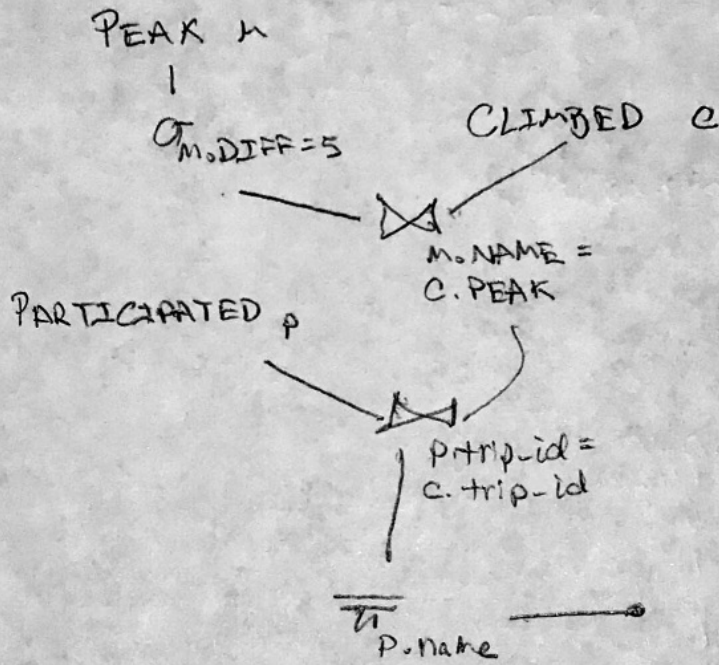
1.)



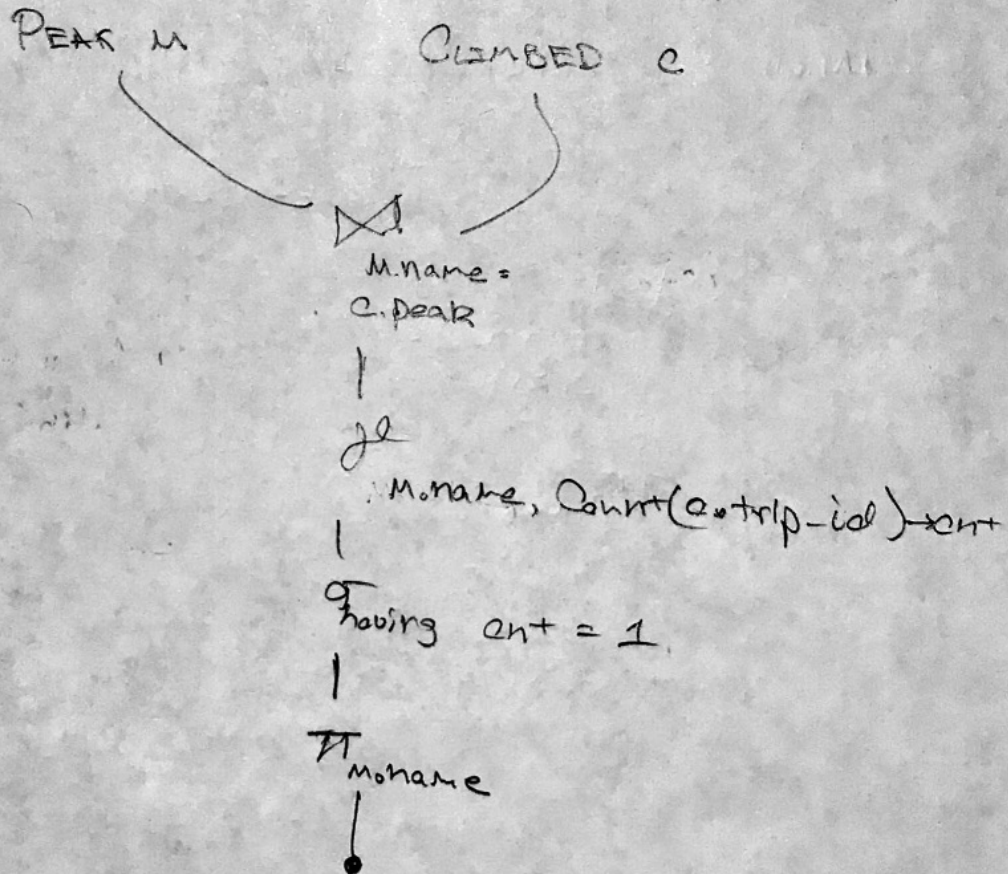
2.)



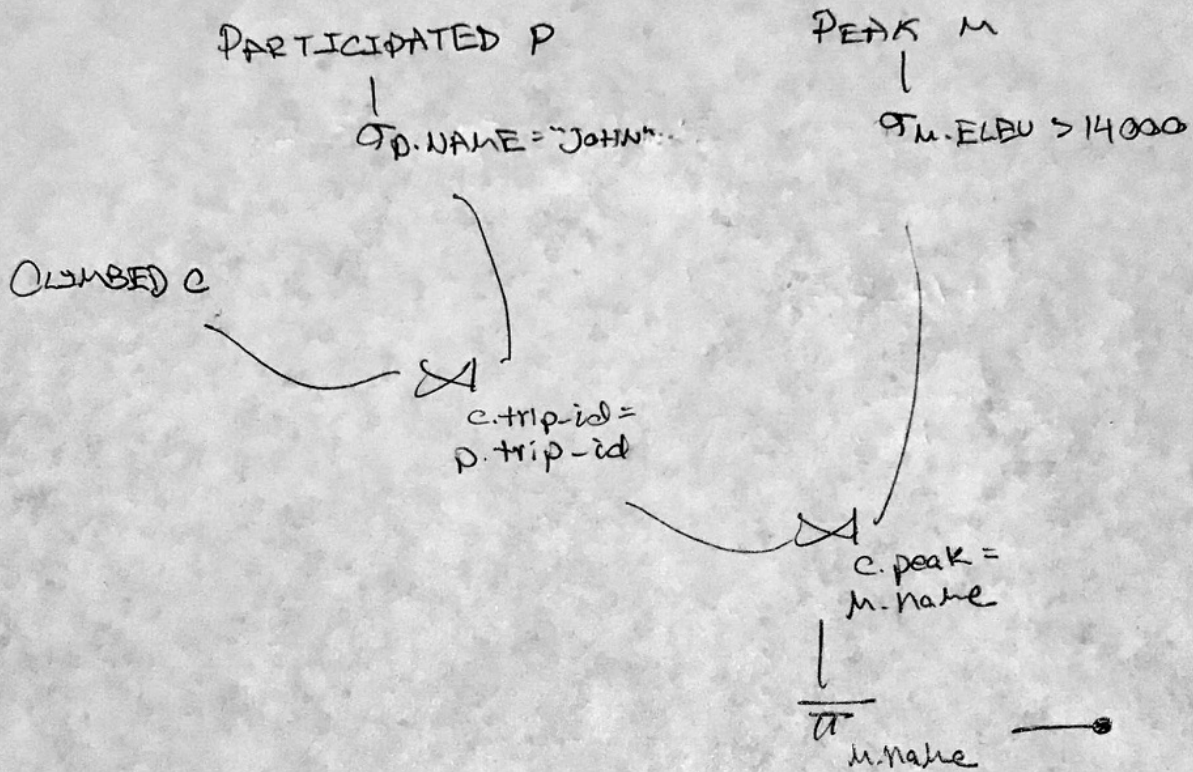
3.)



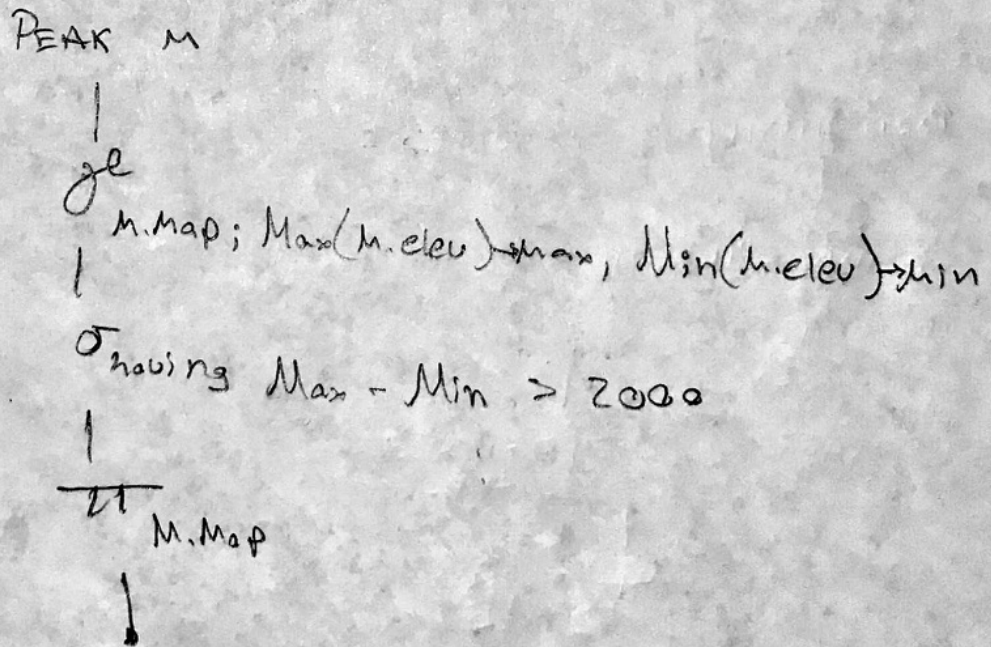
4.)



5.)



6.)



7.)

PEAK

1

je

Map; AVG(ELEV) → AVG-ELEV

1

↑

AVG-ELEV

1

$\frac{1}{n}$

Map

8.)

PARTICIPATED pz

CLIMBED cz

PARTICIPATED p

CLIMBED c

Opz.name = "MARK"

Op.name = "MARY"

pz.trip-id =
cz.trip-id

p.trip-id =
c.trip-id

$\frac{1}{n}$

cz.peak

c.peak =
cz.peak

$\frac{1}{n}$ c.peak →

