CSE 344 – Midterm Review

Consider a schema for a picture tagging website:

```
Member(mid, name, age)
Picture(pid, year)
Tagged(mid, pid)
```

1. Return the names of all members that were tagged in both 2011 and 2014 sorted in alphabetic order.

2. Return the name of all users who were never tagged in 2015.

```
Member(mid, name, age)
Picture(pid, year)
Tagged(mid, pid)
```

3. Write a Relational Algebra Expression (draw a tree) for the following query:

```
SELECT w.year, max(w.c) AS m
FROM
      (SELECT x.name, z.year, count(*) AS c
       FROM Member x, Tagged y, Picture z
       WHERE x.mid = y.mid AND y.pid = z.pid AND age < 20
       GROUP BY x.name, z.year) w
GROUP BY w.year
HAVING sum(w.c) > 100;
```

4. Write a query in datalog with negation that returns the mids and names of all members that were tagged only in pictures were Alice was also tagged.

    Hint:

```
aliceTagged(pid) :-
nonAnswer(mid) :-
answer(mid,name) :-
```