Relational Algebra

1. Find profile of John Smith

$$\sigma_{(fname=john \text{ and } lname=smith)}(\text{PROFILE})$$

2. Show people who liked a specific post

$$\pi_{profileid}(\sigma_{(postid=123)}(LIKES))$$

3. Show people going to event in Arlington

$$\pi_{registereduserid}(\sigma_{location=Arlington}(Eventpg))$$

4. Retrieve list of people who like post of a specified eventpg or are registered for that eventpg

$$(\pi_{profileID}[(\sigma_{pgid=123}(POST)) \bowtie LIKES]) \cup (\pi_{profileID}(\sigma_{pgid=123}(REGITEREDUSERS)))$$

5. Show friends of a user

$$\pi_{friendid}(\sigma_{userid=123}(FRIENDLIST))$$

6. Find Mutual friend of user X and Y

$$(\pi_{friendid}[\sigma_{userid=123}(FRIENDLIST)]) \cap (\pi_{friendid}[\sigma_{userid=123}(FRIENDLIST)])$$

7. Find all the users registered for same events as XYZ

$$R1 \leftarrow \pi_{pageid}(\sigma_{profileid=xyz}(REGISTEREDUSERS))$$

$$REGISTEREDUSERS \div R1$$

8. List all the users who commented on post XYZ

$$\pi_{profileid}(\sigma_{postid=123}(COMMENTS))$$

9. Show friends of user1 but not user2

$$(\pi_{friendid}(\sigma_{profileid=1}(FRIENDLIST))) - (\pi_{friendid}(\sigma_{profileid=2}(FRIENDLIST)))$$

10. Show admin of a page

$$\pi_{adminid}(\sigma_{pageid=123}(EVENTPG))$$