

- List the members of your group below. Underline your name.
  
- Consider the relational instance from the previous class exercise:  $R_1(B, N, C, D)$ , representing the building name (B), room number (N), capacity (C), and description (D) of rooms on campus.

$R_1$			
B	N	C	D
Neville	227	30	cramped seating, blackboard
Neville	120	25	nice chairs, whiteboard, videoconferencing
Neville	225	2	office
Neville	224	3	office
East Annex	225	10	lab
East Annex	227	3	office

Evaluate the following SQL queries on this instance.

(a) `select C,D from R1`

(b) `select *  
from R1  
where lower(D) like '%board%' and not lower(N) like '%office%'`

(c) `select 1, 2+3 from R1`

(d) `select min(S.N), sum(T.C)  
from R1 S, R1 T`

(e) `select B, N, C  
from R1  
where B = (select B from R1 where C = 30)`

3. Provide SQL queries for the following.

(a) The building names and room numbers of rooms with a capacity between 10 and 50.

(b) Pairs of rooms  $(a, b)$  in the same building with the capacity of  $b$  greater than that of  $a$ .

(c) Pairs as in Question 3b, but with the added constraint that there is no room  $c$  in the same building with capacity between those of  $a$  and  $b$ .

(d) The rooms with the largest capacities in each building.

4. Provide relational algebra equivalents of the SQL queries in Questions 2 and 3.