

1. List the members of your group below. Underline your name.

2. Consider the following relational instance $R_1(B, N, C, D)$ 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

What is its arity? What is its cardinality?

3. Evaluate the following queries on the above instance.

(a) $\pi_{B,N}R_1$

(b) $\pi_C R_1$

(c) $\pi_{BR_1} \times \pi_{NR_1}$

(d) $\pi_{B,N} \sigma_{C>20} R_1$

(e) $\sigma_{C>20} \pi_{B,N} R_1$

4. Provide relational algebra queries for the following.

(a) Identifying information and descriptions of all rooms with capacity between 20 and 40.

(b) All possible 2-room combinations.