

1. Write the relational algebra statement(s) that specifies each of the following queries on the database shown below.

a. Display the part name, supplier, and cost of all parts sold by the supplier named “Acme” that cost more than 5.00.

b. Display the name of all suppliers that sell a part named “widget” and the cost of the part for that supplier.

2. Draw the table that results from each of the following operations.





3. The following ER diagram represents a hotel reservation system. Map the ER diagram to a relational schema.



4. Decompose each set of functional dependencies into BCNF. Show a diagram of the resulting dependencies. *Hint*: Draw the overall diagram and then decompose it.

a. A → C

A → D

AB → F

F → E

b. A → BC

B → C

BC → D

C → E

E → F

5. Eliminate redundant FDs from each of the relations below. For credit you must show the table used in class to eliminate redundancies. Show the resulting diagram without redundancies. If no redundancies exist, state that fact.

a.



b.



c.

