9.2 n-ary Relations and Their Applications

9.2 pg. 589 # 7

The 3-tuples in a 3-ary relation represent the following attributes of a student database: student ID number, name, phone number.

a Is student ID number likely to be a primary key?

b Is name likely to be a primary key?

c Is phone number likely to be a primary key?

9.2 pg. 589 # 9

The 5-tuples in a 5-ary relation represent these attributes of all people in the United States: name, Social Security number, street address, city, and state.

a Determine a primary key for this relation.

b Under what conditions would (name, street address) be a composite key?

c Under what conditions would (name, street address, city) be a composite key?

9.2 pg. 590 # 11

What do you obtain when you apply the selection operator S_C, where C is the condition Destination = Detroit, to the database in Table 8?

Table 8 Flights

Airline	Flight_number	Gate	Destination	Departure_time
Nadir	122	34	Detroit	08:10
Acme	221	22	Denver	08:17
Acme	122	33	Anchorage	08:22
Acme	323	34	Honolulu	08:30
Nadir	199	13	Detroit	08:47
Acme	222	22	Denver	09:10
Nadir	322	34	Detroit	09:44

9.2 pg. 590 # 13

What do you obtain when you apply the selection operator S_C, where C is the condition (Airline = Nadir) $\vee$ (Destination = Denver), to the database in Table 8?

9.2 pg. 590 # 17

Display the table produced by applying the projection $P_{1,4}$ to Table 8.

9.2 pg. 590 # 19

Construct the table obtained by applying the join operator J_2 to the relations in Tables 9 and 10.

Table 9 Part_needs

Supplier	Part_number	Project
23	1092	1
23	1101	3
23	9048	4
31	4975	3
31	3477	2
32	6984	4
32	9191	2
33	1001	1

Table 10 Part_inventory

Part_number	Project	Quantity	Color_code
1001	1	14	8
1092	1	2	2
1101	3	1	1
3477	2	25	2
4975	3	6	2
6984	4	10	1
9048	4	12	2
9191	2	80	4