

Q6.1

Select s1.sid, s2.sid

From catalog s1, catalog s2

Where s1.sid <> s2.sid and s1.price > s2.price

Q6.2

Select s.sid

From supplier s, catalog c, part p

Where s.address = "Ruston City" or (s.sid = c.sid and c.pid = p.pid and p.color = "red")

Q9.1

a. 10156731 john Comp Net ruston 96

b. 10145221 john DBMS ruston 100

$STU_{SUB1}(CWID, Name, Subject)$ and $STU_{SUB2}(CWID, Location, Score)$

| | | | | |
|----------|------|------------------|--------|-----|
| 10159731 | john | Compute networks | Ruston | 96 |
| 10145221 | John | DBMS | Ruston | 100 |

$STU_{SUB1}(CWID, Name, Location, Score)$ and $STU_{SUB2}(Location, Score)$

| | | | | |
|----------|------|------------------|--------|-----|
| 10159731 | john | Compute networks | Ruston | 96 |
| 10159731 | john | Compute networks | Ruston | 100 |
| 10145221 | John | DBMS | Ruston | 96 |
| 10145221 | John | DBMS | Ruston | 100 |

(b) 1 is lossless but 2 is lossy

Q9.2

Report(RID, Title, AID, Author, Subject)

$\{RID \rightarrow Title, Title \rightarrow Subject, AID \rightarrow Author\}$

Report(RID, Title, Subject)

Fd: $\{RID \rightarrow Title, RID \rightarrow Subject\}$

Author(AID, Author)

FD $\{AID \rightarrow Author\}$

Q8.1

$FD = \{ HScode \rightarrow (HSname, HScity), GPA \rightarrow Priority, SSN \rightarrow (SName, Saddress, GPA) \}$

HighSchool(HScode, HSname, HScity)

FD: { HScode \rightarrow (HSname, HScity) }

Student(SSN, SName, Saddress, GPA, Priority)

FD: { SSN \rightarrow (SName, Saddress, GPA, Priority) }

Q8.2