B461 A6

BY MATTHEW PLOETZ

1

A)

$\pi_{S.\text{Sid},B1.\text{BookNo}}(\sigma_{S.\text{Sid}=b1.\text{Sid AND } S.\text{Sid}=B2.\text{Sid AND } B1.\text{BookNo}!=B2.\text{BookNo AND } S.\text{Sname}='\text{Eric}' \text{ AND } b1.\text{BookNo}!=2010}(S \times B1 \times B2))$

B) SELECT DISTINCT b.bookno, b.title FROM book b, student s WHERE b.price = SOME(select b1.price from buys t, book b1 where b1.price > 50 and s.sid = t.sid and t.bookno = b1.bookno);

SOME(select $b1$.price from buys t, book $b1$ where $b1$.price $>$ 50 and s.sid $=$ t.sid and t.bookno $=$ $b1$.bookno)

$\longrightarrow$

Exists(select $b1$.price from buys t, book $b1$ where $b1$.price $>$ 50 and s.sid $=$ t.sid and t.bookno $=$ $b1$.bookno)

$\longrightarrow$

$\pi_{B1.\text{Price}}(\sigma_{B1.\text{Price}>50 \text{ AND } S1.\text{Sid}=T.\text{Sid AND } T.\text{BookNo}=B1.\text{BookNo}}(T \times B1 \times S1))$

$\longrightarrow$

$(S \ltimes (\pi_{S1.\text{Sname},S1.\text{Sid}}(\sigma_{B1.\text{Price}>50 \text{ AND } S1.\text{Sid}=T.\text{Sid AND } T.\text{BookNo}=B1.\text{BookNo}}(T \times B1 \times S1))))$

$\longrightarrow$

$\pi_{B.\text{BookNo},B.\text{Title}}$

$(S \ltimes (\pi_{S1.\text{Sname},S1.\text{Sid}}(\sigma_{B1.\text{Price}>50 \text{ AND } S1.\text{Sid}=T.\text{Sid AND } T.\text{BookNo}=B1.\text{BookNo AND } B.\text{Price}=B1.\text{Price}}(T \times B1 \times S1)))$

$\longrightarrow$

$\pi_{B.\text{BookNo},B.\text{Title}}(S \times B) \ltimes (\pi_{S1.\text{Sname},S1.\text{Sid}}(\sigma_{B.\text{Price}=B1.\text{Price AND } B1.\text{Price}>50 \text{ AND } S1.\text{Sid}=T.\text{Sid AND } T.\text{BookNo}=B1.\text{BookNo}}(T \times B1 \times S1)))$

C)