Liam Daniell

5.11

A. There are no Constraint Violations.

B. Violates Referential Integrity because DNUM = 2 but there is no department with a Dnumber that equals 2. You can enforce the constraint by adding in a department with dnumber = 2.

C. Violates referential integrity and key constraint. It violates key constraint because a department already exists with the dnumber = 4. You can enforce the constraint by changing the new departments number to one that does not violate the key constraint. It violates referential integrity because there is no employee relation with the SSN = 943775543. You can enforce the constraint by adding in a new employee with the SSN of 943775543.

D. Violates Entity integrity and referential integrity. This violates entity integrity because PNO which is a primary part of WORKS_ON is NULL. You can enforce the constraint by changing the value of the PNO to a value of pnumber that exists in the project. It violates referential integrity because there is no employee with the SSN = 677678989. You can enforce the constraint by adding in a new employee with the SSSN of 677678989.

E. There are no Constraint Violations.

F. There are no Constraint Violations.

G. Violates referential integrity because several tuples exist in the WORKS_ON, DEPENDENT, DEPARTMENT, and EMPLOYEE relations that reference the tuple being deleted from EMPLOYEE. You can enforce the constraint by deleting all tuples in WORKS_ON, DEPENDENT, DEPARTMENT, and EMPLOYEE whose SSN match the value of 987654321.

H. Violates referential integrity because two tuples exists in the WORKS_ON relation that reference the tuple being deleted from the PROJECT. This can be enforced by deleting the tuples in WORKS_ON whose value for PNO = 1.

I. There are no Constraint Violations.

J. Violates referential integrity because the value of SUPERSSN = 943775543 and there is no employee tuple with SSN = 943775543. You can enforce the constraint by inserting a new employee with the SSN of 943775543.

K. There are no Constraint Violations.

5.17

Specifying foreign keys:

1. The attribute Serial_no of relation OPTION that references relation CAR
2. The attribute Salesperson_id of relation SALE that references relation SALESPERSON
3. The attribute Serial_no of relation SALE that references relation CAR

Car

Serial_No	Model	Manufacture	Price
af34CT85	2003 Suburban	Chevrolet	$3,200
DH3xZWUe	2008 Kia Soul	Kia	$5,000

Option

Serial_No	Option_name	Price
af34CT85	Suburban	$3,200
DH3xZWUe	Kia	$5,000

Sale

Salesperson_id	Serial_No	Date	Sale_price
1	af34CT85	04/12/2015	$3,200
2	DH3xZWUe	02/23/2019	$5,000

Salesperson

Salesperson_id	Name	Phone
1	Johnson	555-454-2039
2	Marie	401-323-8797

Insert < 1, CD247685, 04/12/2015, $3,200 > into Sale

Insert < 23, Marie, 401-323-8797 > into Salesperson

First one violates referential integrity because there is no Serial_No relation that matches that value, and the second one violates because there is no Salesperson_id relation with that value.

Insert < 1, af34CT85, 04/12/2015, $3,200 > into Sale

Insert < 2, Marie, 401-323-8797 > into Salesperson

These ones should work properly.