

DBMS ASSIGNMENT 1
MANAN WASON
2013056

- 1) Foreign keys : SSN,Trip_ID, Dept_No

Assumption:- Dept_No if Department table exists

- 2) Various Candidate keys : Univ_section#, Course#, (Semester & Building_code & Room# & Time_period & Weekdays)

3)

CAR(Serial no, Model,Manufacturer,Price)

OPTION(Serial no, Option name, price)

SALE(Salesperson id,Serial No,Date,Sale_price)

SALESPERSON(Salesperson id,Name,Phone)

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

4)

- a) No violations
- b) Violates Referential Integrity constraint because Dnumber = 2 and there is no entry in the Department relation with Dnumber =2. To enforce constraint:
 - i) change value of Dnumber to something that is present in the Department table
 - ii) Insert this Dnumber value in Department table
 - iii) Reject new tuple
- c) Violates key constraint and referential integrity constraint because Dnumber = 4 already exists in DEPARTMENT table and referential integrity because Mgr_ssn='943775543' and there is no tuple in the EMPLOYEE relation with Ssn='943775543'.To enforce constraints:
 - (i) reject insertion
 - (ii)Change value of Dnumber
 - (iii)change value of Mgr_ssn to an existing SSn in EMPLOYEE table
 - (iv)Insert new EMPLOYEE with given SSN
- d) Violates Entity integrity and referential integrity constraints because Pno(Primary) is "NULL" and the Essn number is not present in the EMPLOYEE relation table, so to enforce: (i)We can reject (ii) Add employee with Essn (iii)Give a Pno value
- e) No Violations
- f) No Violations

- g) Violates Referential integrity constraint as the Employee tuple with SSN = '9876654321' is being referred to various other relations such as DEPENDENT, DEPARTMENT etc. To enforce constraint:
 - i) Reject deleteion
 - ii) Delete it from every relation
 - h) Violates Referential integrity constraint as Tuple being deleted is referenced in the WORKS_ON relation. To enforce constraint:
 - i) rejected deletion
 - ii) Delete it from the WORKS_ON relation as well
 - i) No violations
 - j) Violates referential integrity constraint as there is no tuple with the SSN value = '943775543' in the EMPLOYEE relation and so this value can't take act as a superSSN value. To enforce constraint:
 - i) reject modification
 - ii) add new Employee with the SSN value
 - k) No violations
- 5) Author:- name, address
 publisher:- name
 book:- ISBN
 customer:- email
 shopping_basket:-Baket_ID
 warehouse:- code