

RGUKT- R K VALLEY:: IDUPULAPAYA

DATABASE MANAGEMENT SYSTEMS LAB EXTERNAL LABORATORY EXAM

SET-03

Q1: Draw the ER DIAGRAM for the description of data base 10 M

Consider a CONFERENCE_REVIEW database in which researchers submit their research papers for consideration. Reviews by reviewers are recorded for use in the paper selection process. The database system caters primarily to reviewers who record answers to evaluation questions for each paper they review and make recommendations regarding whether to accept or reject the paper. The data requirements are summarized as follows:

■ Authors of papers are uniquely identified by e-mail id. First and lastnames are also recorded.

■ Each paper is assigned a unique identifier by the system and is described by a title, abstract, and the name of the electronic file containing the paper.

■ A paper may have multiple authors, but one of the authors is designated as the contact author.

■ Reviewers of papers are uniquely identified by e-mail address. Each reviewer's first name, last name, phone number, affiliation, and topics of interest are also recorded.

■ Each paper is assigned between two and four reviewers. A reviewer rates each paper assigned to him or her on a scale of 1 to 10 in four

categories: technical merit, readability, originality, and relevance to the conference. Finally, each reviewer provides an overall recommendation regarding each paper.

■ Each review contains two types of written comments: one to be seen by the review committee only and the other as feedback to the author(s).

Design an Entity-Relationship diagram for the CONFERENCE_REVIEW database.

Q2: Consider the following database (Set of Tables)

WORKS_ON

<u>Essn</u>	<u>Pno</u>	Hours
123456789	1	32.5
123456789	2	7.5
666884444	3	40.0
453453453	1	20.0
453453453	2	20.0
333445555	2	10.0
333445555	3	10.0
333445555	10	10.0
333445555	20	10.0
999887777	30	30.0
999887777	10	10.0
987987987	10	35.0
987987987	30	5.0
987654321	30	20.0
987654321	20	15.0
888665555	20	NULL

PROJECT

<u>Pname</u>	<u>Pnumber</u>	Plocation	Dnum
ProductX	1	Bellaire	5
ProductY	2	Sugarland	5
ProductZ	3	Houston	5
Computerization	10	Stafford	4
Reorganization	20	Houston	1
Newbenefits	30	Stafford	4

DEPENDENT

<u>Essn</u>	<u>Dependent_name</u>	Sex	Bdate	Relationship
333445555	Alice	F	1986-04-05	Daughter
333445555	Theodore	M	1983-10-25	Son
333445555	Joy	F	1958-05-03	Spouse
987654321	Abner	M	1942-02-28	Spouse
123456789	Michael	M	1988-01-04	Son
123456789	Alice	F	1988-12-30	Daughter
123456789	Elizabeth	F	1967-05-05	Spouse

EMPLOYEE

<u>Fname</u>	<u>Minit</u>	<u>Lname</u>	<u>Ssn</u>	Bdate	Address	Sex	Salary	Super_ssn	Dno
John	B	Smith	123456789	1965-01-09	731 Fondren, Houston, TX	M	30000	333445555	5
Franklin	T	Wong	333445555	1955-12-08	638 Voss, Houston, TX	M	40000	888665555	5
Alicia	J	Zelaya	999887777	1968-01-19	3321 Castle, Spring, TX	F	25000	987654321	4
Jennifer	S	Wallace	987654321	1941-06-20	291 Berry, Bellaire, TX	F	43000	888665555	4
Ramesh	K	Narayan	666884444	1962-09-15	975 Fire Oak, Humble, TX	M	38000	333445555	5
Joyce	A	English	453453453	1972-07-31	5631 Rice, Houston, TX	F	25000	333445555	5
Ahmad	V	Jabbar	987987987	1969-03-29	980 Dallas, Houston, TX	M	25000	987654321	4
James	E	Borg	888665555	1937-11-10	450 Stone, Houston, TX	M	55000	NULL	1

DEPARTMENT

<u>Dname</u>	<u>Dnumber</u>	Mgr_ssn	Mgr_start_date
Research	5	333445555	1988-05-22
Administration	4	987654321	1995-01-01
Headquarters	1	888665555	1981-06-19

DEPT_LOCATIONS

<u>Dnumber</u>	<u>Dlocation</u>
1	Houston
4	Stafford
5	Bellaire
5	Sugarland
5	Houston

Create UNIVERSITY database for the following data:

a) CREATE DATABASE <ID_DatabaseName_SETNUMBER>
and Create the tables <ID_TABLENAME_SETNUMBER>, insert the given data into the respective tables.

Creation of database, creation of tables and insertion of data. Script Writing - 10M

Execution in SQL – Creation of tables and insertion data (Insert at least three rows in each table which relevant for the question given in Q 2.b) 10 M

b) QUERIES – write and execute the following Queries

Script Writeup - 10M

Execution in SQL - 10 M

1. Write an sql statement to retrieve the number of employees in the 'Research'.

2. Write an SQL statment to retrieves the name and address of every employee who works for the 'Research' department.

3. Write an sql statement to retrieve the name of each employee who has a dependent with thesame first name and is the same sex as the employee.

4. Write an sql statement- For each project on which more than two employees work, retrieve the project number, the project name, and the number of employees who work on the project.

5. Write an sql statement to retrieve the names of employees who make at least \$10,000 more thanthe employee who is paid the least in the company.

Q 3: Consider the following schema:

Suppliers(sID, sName, address)

Parts(pID, pName, colour)

Catalog(sID, pID, price)

Catalog[sID]⊆Suppliers[sID]

Catalog[pID]⊆Parts[pID]

Employees(number, name, age, salary)

Supervises(boss, employee)

Supervises[*boss*] \subseteq Employees[*number*]

Supervises[*employee*] \subseteq Employees[*number*]

Clients(*CID*, *name*, *phone*) Staff(*SID*, *name*)

Appointments (*CID*, *date*, *time*, *service*, *SID*)

Appointments[*CID*] \subseteq Clients[*CID*]

Appointments[*SID*] \subseteq Staff[*SID*]

Write the Relational Algebra and Tuple Relational Calculus queries for the given questions

Relational Algebra

- $5 * 1M = 5M$

Tuple relational Calculus

- $5 * 1M = 5M$

1. Find the names of suppliers who supply some red part.
2. Find the IDs of suppliers who supply some red or green part.
3. Find the IDs of suppliers who supply some red part or are based at 21 GeorgeStreet.
4. Find the IDs of suppliers who supply some red part and some green part.
5. Find pairs of sids such that the supplier with the first sid charges more for some part than the supplier with the second sid.

NOTE: Creation of database <ID_DatabaseName_SETNUMBER> and Creation of tables <ID_TABLENAME_SETNUMBER> and insertion of given data in respective tables and execution of queries output Screenshots should be taken and copy into word file, this word file <ID_SETNUMBER_SECTION> into PDF version with <ID_SETNUMBER_SECTION>. PDF File with <ID_SETNUMBER_SECTION> needs to be uploaded in shared google form which will share at 4:40 PM.