



EASTERN UNIVERSITY, SRILANKA

DEPARTMENT OF MATHEMATICS

SECOND EXAMINATION IN SCIENCE - 2008/2009

SECOND SEMESTER (Oct./Nov.,2010)

CS253 - Practical Work on CS203

Answer all questions

Time: 2Hours

Using normalization technique normalize the following table up to 3rd NF. (Write the answer for normalization in a separate sheet and attach with your softcopy.)

(20 marks)

Student Index No.	Student Name	Major	Level	Age	Course	Lecturer	Lecturer ID	Lecturer Name	Dept. Name	Grade
					Name					
PS901	Joseph Thompson	Computer Science	SO	19	Database Systems	LH1	EU001	Johnson	Computer	A
PS902	Christopher Garcia	Computer Science	JR	20	Database Systems	LH1	EU001	Johnson	Computer	C
PS905	Ana Lopez	Computer Engineering	SR	19	Database Systems	LH1	EU001	Johnson	Computer	A
PS906	Luis Hernandez	Electrical Engineering	FR	17	Operating System Design	LH2	EU002	Linda Davis	Computer	S
PS905	Ana Lopez	Computer Engineering	SR	19	Operating System Design	LH2	EU002	Linda Davis	Computer	B
PS901	Joseph Thompson	Computer Science	SO	19	Operating System Design	LH2	EU002	Linda Davis	Computer	A
PS905	Ana Lopez	Computer Engineering	SR	19	Communication Networks	LH2	EU003	Mary Johnson	Computer	C
PS906	Luis Hernandez	Electrical Engineering	FR	17	Optical Electronics	LH4	EU004	Patricia Jones	Electrical	A
PS906	Luis Hernandez	Electrical Engineering	FR	17	Organic Chemistry	LH5	EU005	Richard Jackson	Chemistry	B
PS908	Juan Rodriguez	Psychology	JR	20	Perception	LH6	EU005	Richard Jackson	Psychology	S

Use **mysql** to find the answers to the questions below regarding a University database. No duplicates should be printed in any of the answers.

1. Create tables corresponding to the **Relational Model** in the university database
(10 marks)
2. Insert the data to each table by using the **INSERT** or **LOAD DATA** statement.
(10 marks)
3. Find the names of all juniors (level = JR) who are enrolled in a course taught by Johnson.
4. Find the age of the oldest student who is either a Computer science major or enrolled in a course taught by Linda Davis.
5. Find the names of all courses that either meet in Lecture hall LH2 or have five or more students enrolled.
6. Find the names of all students who got A grade in the database systems course.
7. Find the names of Lecturers who teach in every Lecture hall in which some course is taught.
8. Find the names of Lecturers to whom the combined enrollment of the courses that they teach is less than five.
9. For each level, print the level and the average age of students for that level.
10. For all levels except JR, print the level and the average age of students for that level.
11. For each Lecturer who teach course only in LH2, print the Lecturer's name and the total number of courses she or he teaches.
12. Find the names of students enrolled in the maximum number of courses.
13. Find the names of students not enrolled in any class.
14. For each age value that appears in students, find the level value that appears most often. For example, if there are more FR level students aged 18 than SR, JR, or SO students aged 18, you should print the pair (18, FR).

(5*12=60 marks)