Tutorial 6 -SQL Exercises 4

Task 1

Use *SQL* data definition statements to create the tables below. Include *primary* and *foreign key* definitions.

Task 2

Populate the tables based on the data provided.

ABC COLLEGE ACADEMIC INFORMATION SYSTEM

STUDENT

regno	**name**	**dob**	**telno**	**coursecode ***
P0123	John	09/02/76	01322-843311	CE65
F4567	Sally	01/01/72	020-73318844	CS30
F8910	Andrew	06/12/77	01322-865833	AB12
P7651	Brian	21/11/74	020-85466540	CS30

COURSE

coursecode	**title**	**school**
AB12	Applied Biology	Life Sciences
CE65	Civil Engineerig	Engineering
CS30	Computing Science	Computing

RESULT

regno *	**unitcode ***	**exammark**	**cwkmark**
F4567	ES32	67	90
F4567	MA43	32	21
F4567	RD19	76	100
F8910	FP54	78	12
F8910	HA34	55	23
P7651	ES32	33	66

UNIT

unitcode	**title**	**year**
ES32	Expert Systems	2
PH90	Physics	1
MA43	Mathematics	2
FP54	Food Preservation	3
RD19	Relational Databases	2
HA34	Human Anatomy	3
ES22	Engineering Science	2

KEY:

primary key

foreign key *

Task 3

Based on the relational database tables created in above, write *SQL* queries and run them for the following questions/cases (questions 1-14). Give meaningful names to columns in the output/result table of each query.

Question 1:

List all students whose date of birth is before 1975.

Question 2:

List all students' details with the title of their course.

Question 3:

List the year of the following units: *Physics*, *Mathematics*, *Expert Systems*.

Question 4:

In order to find out which students live in London, list all students whose telephone number begins with '*020* '.

Question 5:
For every student who has taken exams, list the average of their exam marks provided the average is more than 50.

Question 6:
List the students who have taken the following units: *Food Preservation* and *Relational Databases*.

Question 7:
Count the number of units offered at each academic stage (year). The attributes required are *year* and *total_units*. List the output in descending order of *year*.

Question 8:
Give the name of the unit where the highest coursework mark was obtained.

Question 9:
List the name, unit title and unit total (average of exam and coursework marks) of each student, having increased their unit total by 10%.

Question 10:
Give the highest and lowest coursework mark for each unit. In the output table, both the unit code and the title of the unit are required.

Question 11:
Find out how many students belong to the '*School of Life Sciences*' without listing them.

Question 12:
Add an attribute called '*address*' to the *STUDENT* table.
Enter an address for each student.

Question 13:
Write an update query to change the name of the school that offers '*Applied Biology*' from *Life Sciences* to *Scientific Studies*.

Question 14:
Write an update query to delete all records related to the unit code *ES32* (from the result table) where the average of the exam and coursework marks (for the particular record) is less than 50.