University College of Applied Sciences

Engineering Department

Introduction to Database Course

Homework 1

Referring to the textbook solve the following problems

1.8. Identify some informal queries and update operations that you would expect to apply to the database shown in Figure 1.2.

| 1- (Query) List the names of all students majoring in Computer Science.  2- (Query) What are the prerequisites of the Database course?  3- (Update) Insert a new student in the database whose Name=Jackson, StudentNumber=23, Class=1 (freshman), and Major=MATH.  4- (Update) Change the grade that Smith received in Intro to Computer Science section 119 to B |
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1.14. Consider Figure 1.2.

a. If the name of the ‘CS’ (Computer Science) Department changes to ‘CSSE’ (Computer Science and Software Engineering) Department and the corresponding prefix for the course number also changes, identify the columns in the database that would need to be updated.

| **The following columns will need to be updated:**   | **Table** | **Column(s)** | | --- | --- | | **STUDENT** | **Major** | | **COURSE** | **Course\_number and Department** | | **SECTION** | **Course\_number** | | **PREREQUISITE** | **Course\_number and Prerequisite\_number** | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |

b. Can you restructure the columns in the COURSE, SECTION, and PREREQUISITE tables so that only one column will need to be updated?

| **should split the following columns into two columns:**   | Table | Column | Split Columns | | --- | --- | --- | | COURSE | Course\_number | Course\_dept and Course\_num | | SECTION | Course\_number | Course\_dept and Course\_num | | PREREQUISITE | Course\_number | Course\_dept and Course\_num | | PREREQUISITE | Prerequisite\_number | PreReq-dept and PreReq-num | |
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