

Premier University
Department of CSE
4th semester mid Term (Assignment Based)
Course Title: Database Management System
Course Code: CSE 237

Due Date: 22 September, 2020

Total Points: 100

Instructions:

1. Assignment must be hand written. No typed copies will be accepted.
2. If any matches found in the answers or writings, all who shared will be graded the same marks.
3. You must submit in due time. Otherwise, 5 points will be cut for every minute late submission.

Q-1	<p>Draw a Schema Diagram for the following relational schema.</p> <p>employee (<u>employee-id</u>, name, street, city) works (<u>employee-id</u>, company-name, salary) company (<u>company-name</u>, city) manages (<u>employee-id</u>, <u>manager-id</u>)</p> <p style="text-align: center;">Figure 1: Employee relational schema.</p>	10																														
Q-2	<p>Find the results of <i>natural join</i>, <i>left outer join</i>, <i>right outer join</i>, <i>full outer join</i> using the Loan and Borrower relations.</p> <table><tr><th>Loan No.</th><th>Branch</th><th>Amount</th></tr><tr><td>L-100</td><td>G.E.C</td><td>2000</td></tr><tr><td>L-200</td><td>Muradpur</td><td>3000</td></tr><tr><td>L-300</td><td>Wasa</td><td>5000</td></tr><tr><td>L-400</td><td>Agrabad</td><td>6000</td></tr><tr><td>L-500</td><td>Laldighi</td><td>7000</td></tr></table> <p>Fig 2(a): Loan Relation</p> <table><tr><th>Loan No.</th><th>CustomerName</th></tr><tr><td>L-101</td><td>ABC</td></tr><tr><td>L-201</td><td>DEF</td></tr><tr><td>L-301</td><td>GHI</td></tr><tr><td>L-401</td><td>JKL</td></tr><tr><td>L-501</td><td>MNO</td></tr></table> <p>Fig 2(b): Borrower Relation</p>	Loan No.	Branch	Amount	L-100	G.E.C	2000	L-200	Muradpur	3000	L-300	Wasa	5000	L-400	Agrabad	6000	L-500	Laldighi	7000	Loan No.	CustomerName	L-101	ABC	L-201	DEF	L-301	GHI	L-401	JKL	L-501	MNO	10
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Q-3	<p>Write SQL queries to find the followings using <i>Enrollment</i> relational schema:</p> <p>Course (<u>course id</u>, title, credit) Student (<u>Std id</u>, name, address, department) Enroll (<u>Std id</u>, <u>course id</u>, <u>session</u>)</p> <p style="text-align: center;">Figure 3: Enrollment schema</p> <p>i) Create the tables using SQL including the integrity constraints like primary key, foreign key, not null etc.</p> <p>ii) Insert three (3) rows in each table of the above schema.</p> <p>iii) Find the courses which credit is between 1 and 3.</p>	30																														

	<ul style="list-style-type: none"> iv) Find the names of all students of CSE department and whose name start with “Md.”. v) Print the title of the courses which are taken by the students in spring 2020 session. vi) Find the number of courses enrolled by each student of CSE department in spring 2020 session. vii) Find the number of students in each department who have enrolled in ‘Spring 2020’ session. viii) Find the names of all students in CSE department who have enrolled courses with more than two (2) credit. ix) Increase the credits of all courses with 1.0 credit by 0.5. x) Delete all the enrollment information of ‘January 2020’ session. 	
Q-4	<p>A pandemic is going on due to COVID-19 or coronavirus all over the world. Bangladesh has been suffering from this virus since March 2020. It is a challenging work to keep track of the affected people, recovered people, and the number of deaths around the whole country. Bangladesh's government has started recording statistics through several organizations. A convenient approach is needed to store the data properly. The database management system can be one of the effective tools to make this task easier. How can you help the government designing the database for COVID-19? Your relational schema should respond to the following queries-</p> <ul style="list-style-type: none"> • Details of an affected patient including COVID-19 positive and negative dates. • Total affected people in the whole country/ a district/ an Upazilla/ a specific address. • Age-wise affected/death report. • Major symptoms during the affected period. • And other relevant information. 	50