Part A

Draw an Entity Relationship (ER) Diagram to model the following requirement of the "Faculty of Technology". You need to identify and model Entities, Attributes, Key Attributes, and Relationships and clearly denote the Cardinality Ratios and Participation Constraints of the relationships.

- The faculty database stores details about students, courses, and what degree program each student is enrolled in.
- The faculty offers one or more-degree programs. A degree program is made up of one or more courses. A student must enroll in only one-degree program and a degree program can have one or more students.
- A degree program has a name, a unique id, the total credit points required to graduate, and the year it commenced.
- A course has a name, a unique id, a credit point value, and the year it commenced. Many students are enrolled in one course.
- Students have a name, a unique student id, a date of birth, and the year they first enrolled. A student enrolls in one or more courses that are part of the degree program.
- When a student takes a course, the year and semester attempted is recorded. When student finishes the course, a grade (such as A or B) and a mark (such as 60) are recorded.

Part B

Log in to the "**MySQL Server**" using given user account and password.

1. Create a blank database as "**faculty<yourindexno>**".
   (Ex : facultytgxxx)

2. Create the tables according to the given definitions in "**Annex A**".

3. Insert data to the related tables using the data given in "**data.txt**".

4. Modify "**l_d_id**" field into a "**Foreign Key**" field in "**academic_staff**" table.
   (References Table: department Field: d_id)

5. Retrieve all details from "**academic_staff**" table.

6. Update the name of the department of "**BT**" as "**BST**" in "**department**" table.

7. Remove all the data related to "**PQT**" department from "**department**" table.

8. Retrieve the names and salaries of all "**Senior Lectures**".

9. University grant is "**70%**" of the total project budget. Retrieve project id, project name, project budget and the university grant for all the projects.

10. Retrieve the name and the allowance of the academic staff member who is getting the lowest allowance.

11. Retrieve the names and designation of all the "**Project Supervisors**".

12. Retrieve the number of academic staff members as "**Researchers Count**" who are working in the project "**Eagle Eye**".

13. Retrieve the names of academic staff members who are working on more than one project.

14. Create a view called "**all_projects**" to display project id, project name, project budget and the owning department name for all projects.

15. Create a procedure called "**academic_members_for_ project**" to display academic staff member's id, name, designation, salary, allowance and academic staff member's department name for a particular project, when a project id is given as an input parameter.

-------------------------- Annex A ----------------------------

academic_staff

Table Structure				Field Information
Field Name	**Field type**	**Field Size**	**Constraint**	l_id : Unique id for the lecturer l_d_id : Belonging department l_name : Name of the lecturer l_desig : Designation of the lecturer l_salary : Salary of the lecturer l_allowance :Allowance of the lecturer
l_id	char	3	**Primary Key**	
l_d_id	char	3		
l_name	varchar	30		
l_desig	varchar	20		
l_salary	decimal	9,2		
l_allowance	Decimal	9,2		

Table Data

academic_staff					
l_id	l_d_id	l_name	l_desig	l_salary	l_allowance
l01	d01	Kasun	Lecturer	35000	15000
l02	d02	Mahesh	Senior Lecturer	45000	18000
l03	d03	Udaya	Professor	62000	28000
l04	d01	Nadun	Senior Lecturer	45000	20000

department

Table Structure				Field Information
Field Name	**Field type**	**Field Size**	**Constraint**	d_id : Unique id for the department d_name : Name of the department d_head : Name of the head of the department
d_id	char	3	**Primary Key**	
d_name	varchar	5		
d_head	char	3	**Foreign Key**	

Table Data

department

d_id	d_name	d_head
d01	ICT	l04
d02	ENT	l02
d03	BT	l03
d04	PQT	l01

project

Table Structure				Field Information
Field Name	**Field type**	**Field Size**	**Constraint**	pr_id : Unique id for the project pr_d_id: Name of the controlling department pr_name : Name of the project pr_supervisor : Name of the supervisor pr_budget : Budget of the project
pr_id	char	4	**Primary Key**	
pr_d_id	char	3	**Foreign Key**	
pr_name	varcharchar	20		
pr_supervisor	char	3	**Foreign Key**	
pr_budget	decimal	9,2		

Table Data

project

pr_id	pr_d_id	pr_name	pr_supervisor	pr_budget
pr01	d01	Eagle Eye	l01	300000
pr02	d02	Hill Climber	l02	250000
pr03	d03	Glowing Fish	l03	400000

work

Table Structure				Field Information	
Field Name	**Field type**	**Field Size**	**Constraint**	w_pr_id : Project Id w_l_id : lecturer Id	
w_pr_id	char	4	**Foreign Key**		
w_l_id	char	3	**Foreign Key**		

Table Data					

work	
w_pr_id	**w_l_id**
pr01	l01
pr02	l01
pr01	l02
pr01	l04
pr02	l03
pr01	l03
pr03	l03