Case-Study 1

HeadSoft is a startup company. They want to create an Employee Database. The system should have following features:

Employee Table (sample data is given below; you are free to put your own data):

Employee_Id	First_Name	Last_Name	Sur_Name	DOJ	DOB	Qualification	Address	Contact_Number	Designation	Role
1	xxx	yyy	xxy	10-7-2011	15-02-1986	B.Tech	abcd	+9184454545	2	1
2	xyz	yzx	yxv	15-2-2010	21-07-1984	M.C.A	wewr	+9187564523	3	2
3	bsd	tys	yuo	16-03-2011	12-12-1982	B.Tech	wewe	+9188564552	2	3

Designations for organization are maintained in a separate Table. Designations are 'Associate, Senior Associate, Consultant, Lead Consultant, Senior Consultant, Associate Managing Consultant, Managing Consultant, Principle Consultant, Vice President, Senior Vice president, CEO, Managing Director'.

Designation Table:

Designation_Id	Designation_Name	Designation_Description
1	Associate	Associate
2	Senior Associate	Senior Associate
3	Lead Consultant	Lead Consultant
4	Senior Consultant	Senior Consultant
5	Associate Managing Consultant	Associate Managing Consultant
6	Managing Consultant	Managing Consultant
7	Principle Consultant	Principle Consultant
8	Vice President	Vice President
9	Senior Vice president	Senior Vice president
10	CEO	CEO
11	Managing Director	Managing Director

Roles are maintained in a separate Table. HeadSoft Roles are 'Software Engineer, Senior Software Engineer, Test Engineer, Team Lead, Business Analyst, Technology Specialist, Manager and Senior Manager'.

Role Table

Role_Id	Role_Name	Role_Description
1	Software Engineer	Software Engineer
2	Senior Software Engineer	Senior Software Engineer

3	Test Engineer	Test Engineer
4	Team Lead	Team Lead
5	Business Analyst	Business Analyst
6	Technology Specialist	Technology Specialist
7	Manager	Manager
8	Senior Manager	Senior Manager

1) Write a method, to create a new Employee record with details like 'First Name, Last Name, Surname, Date of Joining, Date of Birth, Qualification, Address, Contact number, Designation, Experience and Role'. A new sequence number should be generated for each new employee, which will be used as Employee ID.
2) Write a method to update any of the above details for a given employee in Employee Table.
3) Write a method to delete the record (soft delete not hard delete) for a given employee. It means, the data should not be permanently deleted, but with a flag change.
4) Write four different methods to fetch the employee details given Employee's ID/First Name /Last Name/Surname.

HeadSoft also wants to maintain Employee's skillset in database as defined below.

1) Write two methods to insert/delete each skill with unique id in Skill Table.
2) Write three methods to insert/update/delete employee's skill in Emploee_Skill_Mapping Table
3) Write a method to call which will give count of matching employee for a particular skill set. Input for procedure is Skill id and out put is skill set matching employee count. If no matching employee found, it should give zero count. We should be able to print the matching employee count using System.out.println() in Java method.

Skill Table

Skill_id	**Skill_Name**	**Skill_Description**
1	Java	Java language
2	.Net	.Net language
3	C	C language
4	C++	C++ language
5	Testing	Testing
6	SQL	SQL

Emploee_Skill_Mapping Table (sample data is given below; you are free to put your own data)

id	**Skill_id**	**Employee_id**	**Years of experience**
1	1	1	2.5
2	2	2	3