



CMPE353/CMSE354

Database Management Systems

Labs 2 – 7

Design of a Simplified Volunteering Management System

Spring 2023/24 Semester

Task: You are asked to design a relational database according to the given schema diagram below using Oracle Live SQL software. The task has several subtasks and each of them is described below. Each task will be carried out during weekly lab hours (Labs 2-6). Therefore, each subtask must be completed weekly by the set lab dates (see dates below).

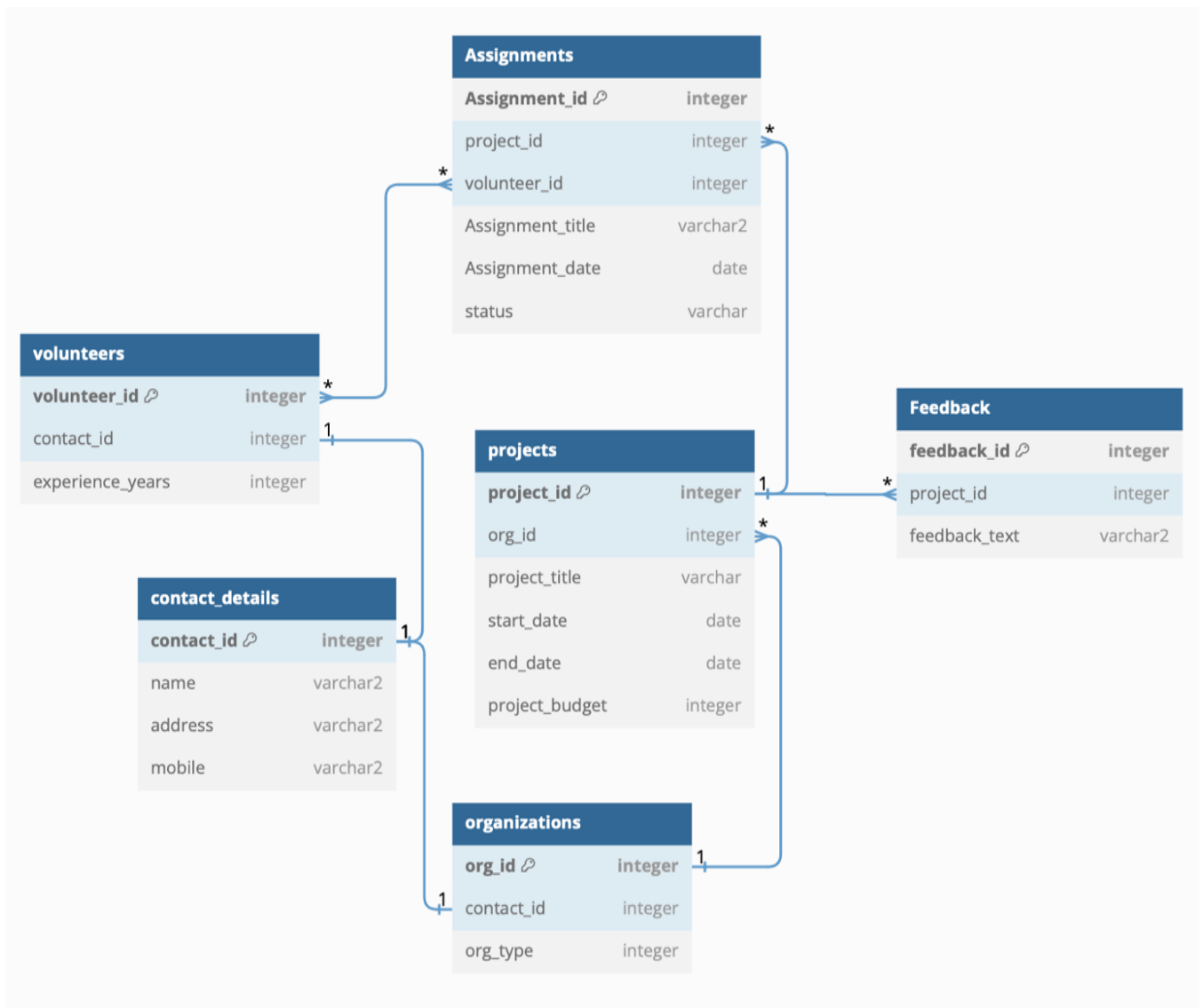
Problem: The objective is to design a database scheme for a **Volunteering Management System**.

The schema diagram below is designed to manage data for a volunteering organization. It includes information about **volunteers, projects, assignments, organizations, contact details and feedback**.

In a volunteering management system, volunteers register for projects and are then assigned specific tasks within those projects. Organizations coordinate multiple projects, each involving various assignments for volunteers. Contact information for both volunteers and organizations is stored to facilitate communication. Furthermore, multiple feedback entries are logged for each project to track participant experiences and project performance.

In this system,

1. There are 6 tables in total: "volunteers", "projects", "assignments", "organizations", "contact_details", and "feedback".
2. Information about projects, such as their unique ID, title, organization ID, start date, end date, and budget, is stored in the "projects" table.
3. Assignment records, including details such as volunteer ID, project ID, assignment ID, assignment date, title, and status, are stored in the "assignments" table.
4. Details about organizations, including their unique ID, organization_type and contact_id, are stored in the "organizations" table.
5. Contact details of volunteers and organizations, such as name, address, email, and phone number, are stored in the "contact_details" table.
6. Volunteers can participate in multiple projects, and projects can have multiple volunteers. Hence, many volunteers can be assigned multiple tasks within these projects.
7. Each organization can have multiple projects. However, a project should belong to only one organization.
8. Each organization and each volunteer should have exactly one corresponding record in the "contact_details" table to store their contact information.
9. Each project may have multiple assignments. However, each assignment is associated with only one project
10. Each project may receive multiple feedback entries. However, each feedback entry is associated with only one project.



LAB 2:

- Build the tables in Oracle Live SQL with your account according to the schema.
- Build the relations among the tables.
- Delete, modify or update the tables.
- Delete, modify or update the constraints.
- Insert sample data into tables.

LAB 3:

- Insert sample data into the tables. (**AT LEAST 20 RECORDS FOR EACH TABLE**)
- Modify, update, or delete entries.

Timeline:

Lab	Date	Description
1	Week of March 18	Task description and Introduction to Oracle Live SQL
2	Week of April 15	Table design and construction
3	Week of April 22	Population of tables with data
4	Week of May 6	Answering SQL queries – Part 1
5	Week of May 13	Answering SQL queries – Part 2
6	Week of May 20	Triggers
7	Week of May 27	Lab Final Exam

Lab grading policy:

1. Lab Attendance: **5%** of the total grade will be based on attendance at lab sessions **[2-6]**. **(1 point each)**.

2. Assignment Submission:**10%**

Students must submit their completed work within two days following the lab session. The submission should include all assigned tasks. Throughout the labs (2-6), there will be a total of five assignments, **each worth 2 points**. These assignments will be created and submitted on Teams.

4. Lab Final Exam: **5%** of the total grade will be attributed to the lab's final exam.