

Task 8: Triggers and Procedures

This task focuses on **automating actions** using **triggers** and **procedures** to improve database efficiency and maintainability.



Section 1: Triggers & Procedures



Objective

- Automate actions using triggers and create procedures for reusable database operations.



Tasks to Perform

1. Triggers

- Automatically log updates in a **separate table** when student records change.
- Use **AFTER UPDATE** trigger to capture changes.

2. Procedures

- Create a **stored procedure** to **update student grades** based on their performance.
- Ensure **flexibility** to handle different grading criteria.



Deliverable: Automated logging and reusable grade update logic.



Section 2: Explanation of Queries



How Triggers Work

- Triggers execute automatically **after specific actions** (e.g., insert, update, delete).
- Used to **log changes** in a separate **audit table**.



How Procedures Work

- Stored procedures** encapsulate **reusable SQL operations**.
 - Helps in **bulk updates** like modifying student grades based on conditions.
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Section 3: Execution & Validation

1 Define Triggers & Procedures

- Write queries to create triggers and procedures.

2 Test with Updates

- Perform updates to check if the trigger logs changes correctly.
- Run the procedure to ensure grades update properly.

3 Validate Results

- Check log tables for trigger execution.
- Verify grades reflect the intended changes.

Deliverables

-  Screenshots of queries & results
-  Explanations for each query
-  Summary of findings

Would you like additional examples or best practices for database automation? 

Deadline Compliance

- **Restriction:** Submit the project within 7 days from the start date.
- **Reason:** Meeting deadlines is crucial in the real-world software development environment. This restriction helps students practice time management and task prioritization. In professional settings, tight deadlines are often the norm, and learning to meet them without compromising quality is an essential skill.
- **Learning Outcome:** Students will learn to manage their time effectively, complete projects under pressure, and deliver results on time, which are all important skills in the workplace.