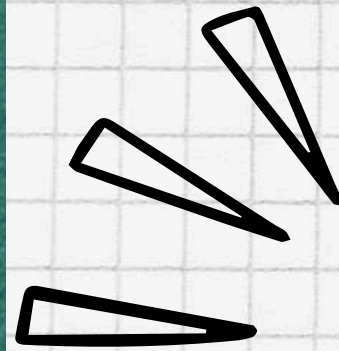
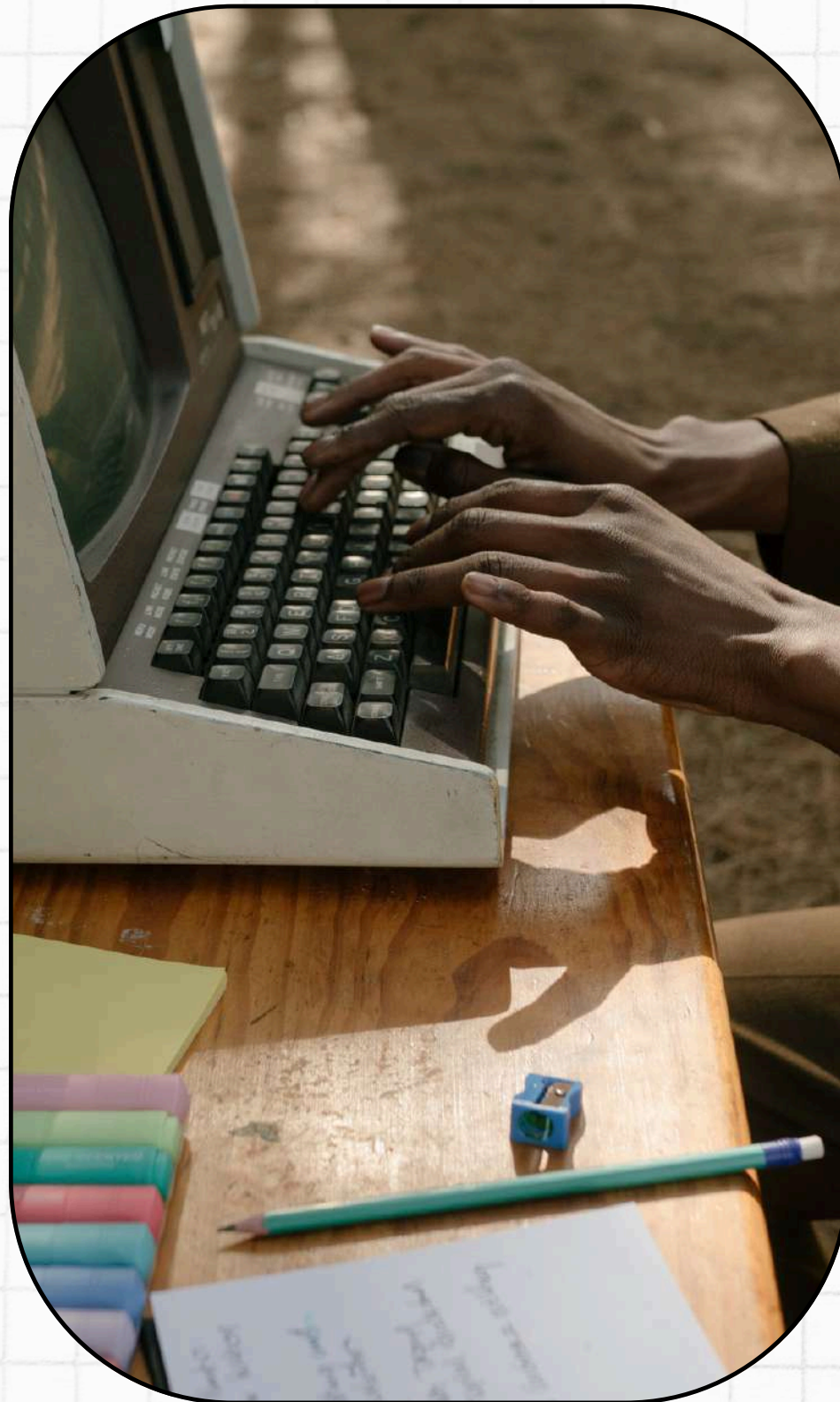


Project Management Db

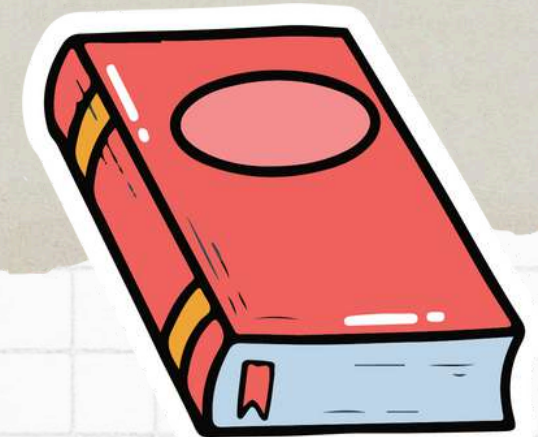



RDBMS PROJECT



Introduction

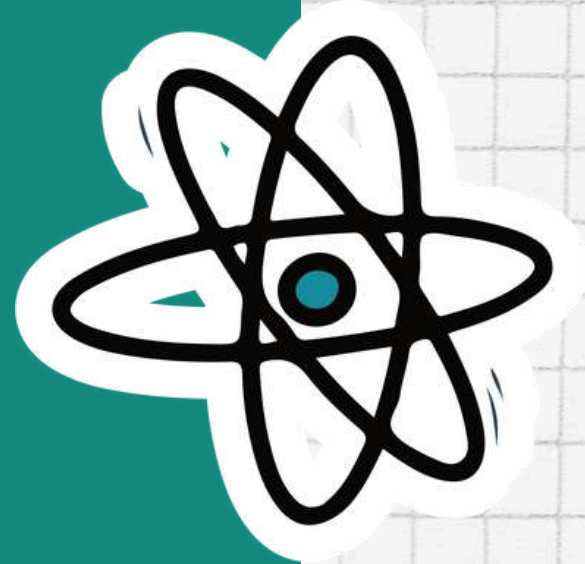
My name is Nitin Pal, and today I will be presenting a project management database system designed using SQL. This project demonstrates the implementation of a robust and efficient relational database to manage project details, tasks, team members, and reporting functionalities. My objective is to showcase how databases can be used to streamline workflows and ensure seamless collaboration in a project environment.





Project overview

The Project Management Database System consists of five interconnected tables: Projects, TeamMembers, Tasks, TaskAssignments, and ProjectReports. These tables work together to store and organize project details, assign tasks to team members, track progress, and generate real-time reports. The system leverages SQL queries to perform critical functions like task assignments, status updates, and progress tracking, ensuring seamless operations and maintaining data integrity.





Objectives

1

To centralize and manage data related to projects, tasks, team members, and reports in a structured way.

2

Enable seamless task assignments and tracking among team members.

3

Provide real-time insights into project status and progress. Ensure the database can handle a growing number of projects and users with ease.

Table's

```
1  create database Project_Management;
2  • use Project_Management;
3
4  -- Create Tables
5  • CREATE TABLE Projects (
6      ProjectID INT AUTO_INCREMENT PRIMARY KEY,
7      Name VARCHAR(100),
8      StartDate DATE,
9      EndDate DATE
10 );
11
12 • CREATE TABLE TeamMembers (
13     MemberID INT AUTO_INCREMENT PRIMARY KEY,
14     Name VARCHAR(100),
15     Role VARCHAR(50)
16 );
```

```
• CREATE TABLE Tasks (
    TaskID INT AUTO_INCREMENT PRIMARY KEY,
    ProjectID INT,
    TaskName VARCHAR(100),
    Description VARCHAR(500),
    Deadline DATE,
    Status VARCHAR(20) DEFAULT 'Pending',
    FOREIGN KEY (ProjectID) REFERENCES Projects(ProjectID)
);

• CREATE TABLE TaskAssignments (
    AssignmentID INT AUTO_INCREMENT PRIMARY KEY,
    TaskID INT,
    MemberID INT,
    AssignedDate DATE,
    FOREIGN KEY (TaskID) REFERENCES Tasks(TaskID),
    FOREIGN KEY (MemberID) REFERENCES TeamMembers(MemberID)
);
```

Table's

```
CREATE TABLE ProjectReports (  
    ReportID INT AUTO_INCREMENT PRIMARY KEY,  
    ProjectID INT,  
    Status VARCHAR(50),  
    CompletionPercentage DECIMAL(5,2),  
    GeneratedDate DATETIME DEFAULT CURRENT_TIMESTAMP,  
    FOREIGN KEY (ProjectID) REFERENCES Projects(ProjectID)  
);
```


Insert Data

```
46  -- Insert Sample Data
47 • INSERT INTO Projects (Name, StartDate, EndDate) VALUES
48 ('Website Redesign', '2024-11-01', '2024-12-15'),
49 ('Mobile App Development', '2024-11-05', '2025-01-20'),
50 ('E-Commerce Platform', '2024-12-01', '2025-02-15'),
51 ('HR Management System', '2024-11-20', '2025-01-10'),
52 ('Data Analytics Dashboard', '2024-11-15', '2025-02-28'),
53 ('Customer Support System', '2024-12-01', '2025-03-01'),
54 ('Inventory Management', '2024-10-10', '2024-12-30'),
55 ('IoT Device Integration', '2024-11-25', '2025-02-10'),
56 ('Learning Management System', '2024-11-01', '2025-01-15'),
57 ('Blockchain Prototype', '2024-12-10', '2025-03-15');
```



```
73 • INSERT INTO Tasks (ProjectID, TaskName, Description, Deadline, Status) VALUES
74 (1, 'Design Mockups', 'Create UI/UX designs for the new website.', '2024-11-15', 'Pending'),
75 (1, 'Develop Frontend', 'Develop frontend pages for the website.', '2024-11-30', 'Pending'),
76 (2, 'API Development', 'Develop APIs for the mobile app.', '2024-12-10', 'Pending'),
77 (2, 'Testing', 'Conduct unit testing for the app.', '2024-12-20', 'Pending'),
78 (3, 'Product Catalog', 'Design the product catalog.', '2024-12-20', 'Pending'),
79 (4, 'Payroll Module', 'Develop payroll processing module.', '2024-12-15', 'Pending'),
80 (5, 'Dashboard UI', 'Create UI for the analytics dashboard.', '2025-01-10', 'Pending'),
81 (6, 'Chat Integration', 'Integrate chatbot for support.', '2025-02-20', 'Pending'),
82 (7, 'Stock Replenishment', 'Automate inventory updates.', '2024-12-15', 'Pending'),
83 (8, 'Device APIs', 'Develop APIs for IoT devices.', '2025-01-25', 'Pending');
```



The screenshot shows a database management tool window with a toolbar at the top containing icons for file operations, search, and other functions. Below the toolbar, the text 'Limit to 1000 rows' is visible. The main area of the window displays an SQL INSERT statement for a table named 'TeamMembers'. The statement is as follows:

```
58
59 • INSERT INTO TeamMembers (Name, Role) VALUES
60 ('Alice Johnson', 'Project Manager'),
61 ('Bob Smith', 'Developer'),
62 ('Carol Lee', 'Designer'),
63 ('David Brown', 'Tester'),
64 ('Eve White', 'Developer'),
65 ('Frank Martin', 'Database Administrator'),
66 ('Grace Green', 'Business Analyst'),
67 ('Hank Miller', 'DevOps Engineer'),
68 ('Ivy Adams', 'Scrum Master'),
69 ('Jack Wilson', 'Quality Assurance');
```



```
01 • INSERT INTO ProjectReports (ProjectID, Status, CompletionPercentage) VALUES
02 (1, 'In Progress', 40.00),
03 (2, 'Not Started', 0.00),
04 (3, 'In Progress', 20.00),
05 (4, 'Not Started', 0.00),
06 (5, 'Not Started', 0.00),
07 (6, 'In Progress', 10.00),
08 (7, 'In Progress', 30.00),
09 (8, 'Not Started', 0.00),
10 (9, 'In Progress', 25.00),
11 (10, 'Not Started', 0.00);
```


- 1. Retrieve all projects along with their start and end dates
- **SELECT * FROM Projects;**

	ProjectID	Name	StartDate	EndDate
►	1	Website Redesign	2024-11-01	2024-12-15
	2	Mobile App Development	2024-11-05	2025-01-20
	3	E-Commerce Platform	2024-12-01	2025-02-15
	4	HR Management System	2024-11-20	2025-01-10
	5	Data Analytics Dashboard	2024-11-15	2025-02-28
	6	Customer Support System	2024-12-01	2025-03-01
	7	Inventory Management	2024-10-10	2024-12-30
	8	IoT Device Integration	2024-11-25	2025-02-10
	9	Learning Management System	2024-11-01	2025-01-15
	10	Blockchain Prototype	2024-12-10	2025-03-15
●	NULL	NULL	NULL	NULL

-- 6. Find all tasks associated with the "Website Redesign" project

SELECT Tasks.*

FROM Tasks

JOIN Projects **ON** Tasks.ProjectID = Projects.ProjectID

WHERE Projects.**Name** = 'Website Redesign';

	TaskID	ProjectID	TaskName	Description	Deadline	Status
▶	1	1	Design Mockups	Create UI/UX designs for the new website.	2024-11-15	Pending
	2	1	Develop Frontend	Develop frontend pages for the website.	2024-11-30	Pending

-- 7. Retrieve tasks assigned to a specific team member

SELECT Tasks.*

FROM Tasks

JOIN TaskAssignments **ON** Tasks.TaskID = TaskAssignments.TaskID

JOIN TeamMembers **ON** TaskAssignments.MemberID = TeamMembers.MemberID

WHERE TeamMembers.Name = 'Bob Smith';

	TaskID	ProjectID	TaskName	Description	Deadline	Status
▶	2	1	Develop Frontend	Develop frontend pages for the website.	2024-11-30	Pending
	5	3	Product Catalog	Design the product catalog.	2024-12-20	Pending

-- 8. Get the task status and deadlines for all tasks in a specific project

SELECT TaskName, **Status**, Deadline

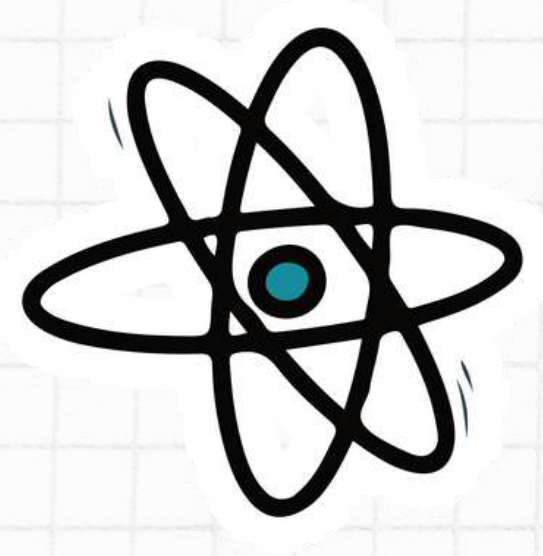
FROM Tasks

WHERE ProjectID = 1;

	TaskName	Status	Deadline
▶	Design Mockups	Pending	2024-11-15
	Develop Frontend	Pending	2024-11-30


```
-- 10. Retrieve the total number of tasks per project
SELECT Projects.Name, COUNT(Tasks.TaskID) AS TotalTasks
FROM Projects
LEFT JOIN Tasks ON Projects.ProjectID = Tasks.ProjectID
GROUP BY Projects.Name;
```

	Name	TotalTasks
►	Website Redesign	2
	Mobile App Development	2
	E-Commerce Platform	1
	HR Management System	1
	Data Analytics Dashboard	1
	Customer Support System	1
	Inventory Management	1
	IoT Device Integration	1
	Learning Management System	0
	Blockchain Prototype	0



The team

22/FCA/BCA/024

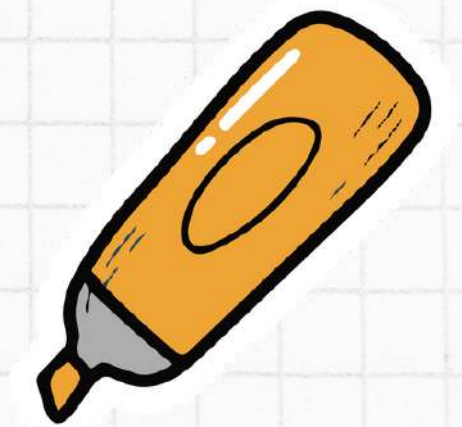
Manish Kumar

22/FCA/BCA/025

Nitin Pal

22/FCA/BCA/169

Mayur



Thank
you

