Database Systems LAB – BSDSF23

(Afternoon)

Lab 05 – 27-03-2025

Copy the portable DB Browser for SQLite from server (\\printsrv) and start it.

OBJECTIVE :This lab focuses on implementing SQL joins to retrieve and manipulate data across multiple tables while applying aggregate functions for data analysis. Students will practice combining related data, performing calculations, filtering results, and organizing information to extract meaningful insights.

Emp Table:

ENO	Ename	Title
Filter	Filter	Filter
101	Alice	Manager
102	Bob	Engineer
103	Charlie	Analyst
104	David	Engineer
105	Eva	Manager
106	Frank	Developer
107	Grace	HR Specialist
108	Henry	Data Scientist
109	Ivy	Analyst
110	Jack	Developer

ASG Table:

ENO	PNO	RESP	DUR
Filter	Filter	Filter	Filter
101	1	Lead Research	12
102	2	Backend Developer	8
103	3	Data Analysis	10
104	2	UI Developer	6
105	4	HR Automation	5
106	5	Security Engineer	9
107	4	HR Policy Developer	7
108	6	Cloud Architect	11
109	3	Blockchain Specialist	8
110	2	Frontend Developer	6

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Project Table:

PNO	PNAME	BUDGET
Filter	Filter	Filter
1	AI Research	50000
2	Web Development	30000
3	Finance App	40000
4	HR System	20000
5	Cybersecurity	60000
6	Cloud Migration	70000

Pay Table:

TITLE	SAL
Filter	Filter
Manager	8000
Engineer	6000
Analyst	5000
Developer	6500
HR Specialist	5500
Data Scientist	7500

Use the above tables and write SQL statements for the following tasks.

a. Retrieve the Ename, Title, Pname and Salaries for all the employees working on projects having Budget > 50000.

b. Retrieve the employees having the maximum salary or minimum duration of work in Web Development and Finance App.

c. Show the count, average salary and duration of work for all the employees having "li" in their names. Order by Ename.

d. Find employees (excluding Analysts) working on projects with budgets between 30K and 60K, showing their project responsibilities and the ratio of their salary to project budget, sorted by this ratio in descending order.

e. Identify the average duration of work for employees working on both 'Web Development' and projects containing 'System' in the name.

f. Calculate hourly labor costs and total hours worked for Managers, Data Scientists, and Developers working on projects having budget > 40K , duration > 6 months, Order by total hours worked. (Assume a standard 160 working hours/month).

NOTE : Make sure to fulfill all the requirements to get full credit.