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Course Code:	CL2005
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Course Title:	Database Systems - Lab
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Semester:	Spring 2026
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Instructor:	Muhammad Mehdi
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Email:	muhammad.mehdi@nu.edu.pk
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Guidelines

- Please review the lab manual before starting the task to ensure you fully understand the requirements.
- You may use **only the concepts covered in the lab manual** to complete this task.
- Your submission must be a **single PDF file** that includes:
 - The source code (in plain text)
 - Screenshots of the corresponding outputs
- Name your file using the following format: **rollno_name_labtasknumber.pdf**
Example: *24p-1234_ozair_labtask03.pdf*
- Unethical use of AI tools will result in a **deduction of 5 marks**.
- Late submissions will incur a penalty of **-1 mark per day**.

Tasks

You are provided with a database file named **tech_servey.db**, which contains a simplified, real-world subset of the **Stack Overflow Developer Survey** dataset.

Open the given database in SQLite and perform **all the specified database operations** on the given dataset.

1. Display all developer records.
2. Display only **country**, **primary_language**, **annual_salary**.
3. List developers earning more than 50,000 USD.
4. Show developers from Pakistan earning less than 20,000 USD.
5. Show developers who use Python **and** PostgreSQL.
6. Show developers from USA **or** Germany earning above 60,000 USD.
7. Show developers who do **not** use JavaScript.



8. Show developers with experience of 5 to 10 years.
9. Show developers whose primary language is either one of **Python, Java, C++, PHP**.
10. Show developers whose framework name starts with the letter **S**.
11. Show developers whose database contains the word **SQL**.
12. Show the top 5 highest-paid developers.
13. Show the lowest-paid developers sorted by salary.
14. Show the only developer with the most experience.
15. Show the developer with the **4th highest** salary.
16. Show developers who **use both primary and secondary languages**.
17. Show developers where salary information is not provided.
18. For each country (ordered alphabetically), rank developers from highest to lowest salary.
19. Display the **total number of unique** primary programming languages used by all developers.
20. Display developers ranked **6th to 10th** by salary, where rank 1 corresponds to the highest salary overall.
21. Display the average annual salary of developers whose primary programming language is **Java** and whose database is **Oracle**.
22. Display a new calculated column named **bonus**, where the bonus is computed for each developer as:

bonus = annual_salary + (1000 × experience_years)