Question 1: Retrieve all employees in the IT department.

SELECT E.FirstName, E.LastName

FROM Employees E

JOIN Departments D ON E.DepartmentID = D.DepartmentID

WHERE D.DepartmentName = 'IT';

Question 2: Find employees hired after 2010.

SELECT FirstName, LastName, HireDate

FROM Employees

WHERE HireDate > '2010-01-01';

Question 3: List projects with a budget exceeding $80,000.

SELECT ProjectName, Budget

FROM Projects

WHERE Budget > 80000;

Question 4: Sort employees by their hire date in descending order.

SELECT FirstName, LastName, HireDate

FROM Employees

ORDER BY HireDate DESC;

Question 5: Show projects sorted by their budget in ascending order.

SELECT ProjectName, Budget

FROM Projects

ORDER BY Budget ASC;

Question 6: Count the number of employees in each department.

SELECT D.DepartmentName, COUNT(E.EmployeeID) AS NumberOfEmployees

FROM Employees E

JOIN Departments D ON E.DepartmentID = D.DepartmentID

GROUP BY D.DepartmentName;

Question 7: Display the top 3 employees with the highest base salary.

SELECT FirstName, LastName, BaseSalary

FROM Employees E

JOIN Salaries S ON E.EmployeeID = S.EmployeeID

ORDER BY BaseSalary DESC

LIMIT 3;

Question 8: Retrieve employee names along with their department names.

SELECT E.FirstName, E.LastName, D.DepartmentName

FROM Employees E

JOIN Departments D ON E.DepartmentID = D.DepartmentID;

Question 9: List all assignments, including employee and project details.

SELECT E.FirstName, E.LastName, P.ProjectName, A.HoursWorked

FROM Assignments A

JOIN Employees E ON A.EmployeeID = E.EmployeeID

JOIN Projects P ON A.ProjectID = P.ProjectID;

Question 10: Find employees working on the project with the highest budget.

SELECT E.FirstName, E.LastName

FROM Assignments A

JOIN Employees E ON A.EmployeeID = E.EmployeeID

JOIN Projects P ON A.ProjectID = P.ProjectID

WHERE P.Budget = (SELECT MAX(Budget) FROM Projects);

Question 11:Calculate the age of each employee.

SELECT FirstName, LastName,

TIMESTAMPDIFF(YEAR, DateOfBirth, CURDATE()) AS Age

FROM Employees;

Question 12: Calculate the total salary (base + bonus) for each employee.

SELECT E.FirstName, E.LastName, (S.BaseSalary + IFNULL(S.Bonus, 0)) AS TotalSalary

FROM Employees E

JOIN Salaries S ON E.EmployeeID = S.EmployeeID;

Question 13: Find all employees hired in 2015.

SELECT FirstName, LastName, HireDate

FROM Employees

WHERE YEAR(HireDate) = 2015;

Question 14: Retrieve the names of projects ending before December 2023.

SELECT ProjectName, EndDate

FROM Projects

WHERE EndDate < '2023-12-01';

Question 15: List employees with base salaries greater than $70,000.

SELECT E.FirstName, E.LastName, S.BaseSalary

FROM Employees E

JOIN Salaries S ON E.EmployeeID = S.EmployeeID

WHERE S.BaseSalary > 70000;

Question 16: Count the number of projects handled by each employee.

SELECT E.FirstName, E.LastName, COUNT(A.ProjectID) AS NumberOfProjects

FROM Employees E

JOIN Assignments A ON E.EmployeeID = A.EmployeeID

GROUP BY E.EmployeeID;

Question 17: List all departments located in "San Francisco".

SELECT DepartmentName

FROM Departments

WHERE Location = 'San Francisco';

Question 18: Display project names along with total hours worked on each.

SELECT P.ProjectName, SUM(A.HoursWorked) AS TotalHoursWorked

FROM Assignments A

JOIN Projects P ON A.ProjectID = P.ProjectID

GROUP BY P.ProjectName;

Question 19: Find the highest bonus received by any employee.

SELECT MAX(Bonus) AS HighestBonus

FROM Salaries;

Question 20: Identify projects that lasted for more than 12 months.

SELECT ProjectName, DATEDIFF(EndDate, StartDate) AS DurationInDays

FROM Projects

WHERE DATEDIFF(EndDate, StartDate) > 365;

Question 21:Retrieve all projects starting in 2023.

SELECT ProjectName, StartDate

FROM Projects

WHERE YEAR(StartDate) = 2023;

Question 22: Calculate the total hours worked by each employee across all projects.

SELECT E.FirstName, E.LastName, SUM(A.HoursWorked) AS TotalHoursWorked

FROM Employees E

JOIN Assignments A ON E.EmployeeID = A.EmployeeID

GROUP BY E.EmployeeID;

Question 23: Find the department with the most employees.

SELECT D.DepartmentName

FROM Departments D

JOIN Employees E ON D.DepartmentID = E.DepartmentID

GROUP BY D.DepartmentID

ORDER BY COUNT(E.EmployeeID) DESC

LIMIT 1;

Question 24: List employees who were born before 1985.

SELECT FirstName, LastName, DateOfBirth

FROM Employees

WHERE DateOfBirth < '1985-01-01';