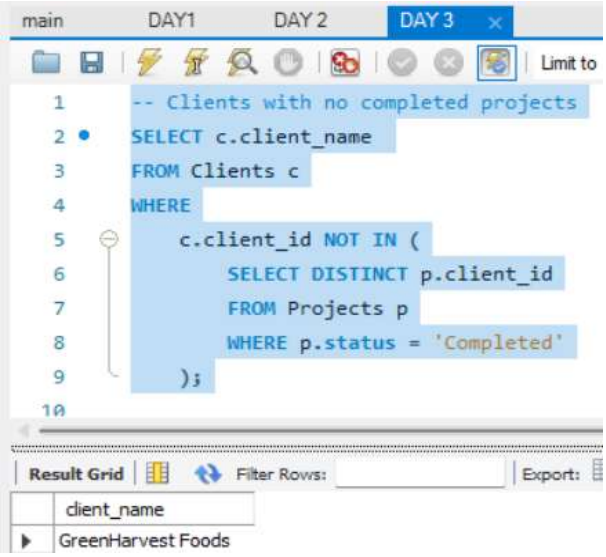
DAY 3-COUNTDOWN TO SQL MASTERY: 5-DAY CHALLENGE
PROJECT NAME-"SOFTWARE SOLUTIONS: PROJECT DELIVERY & REVENUE ANALYSIS."

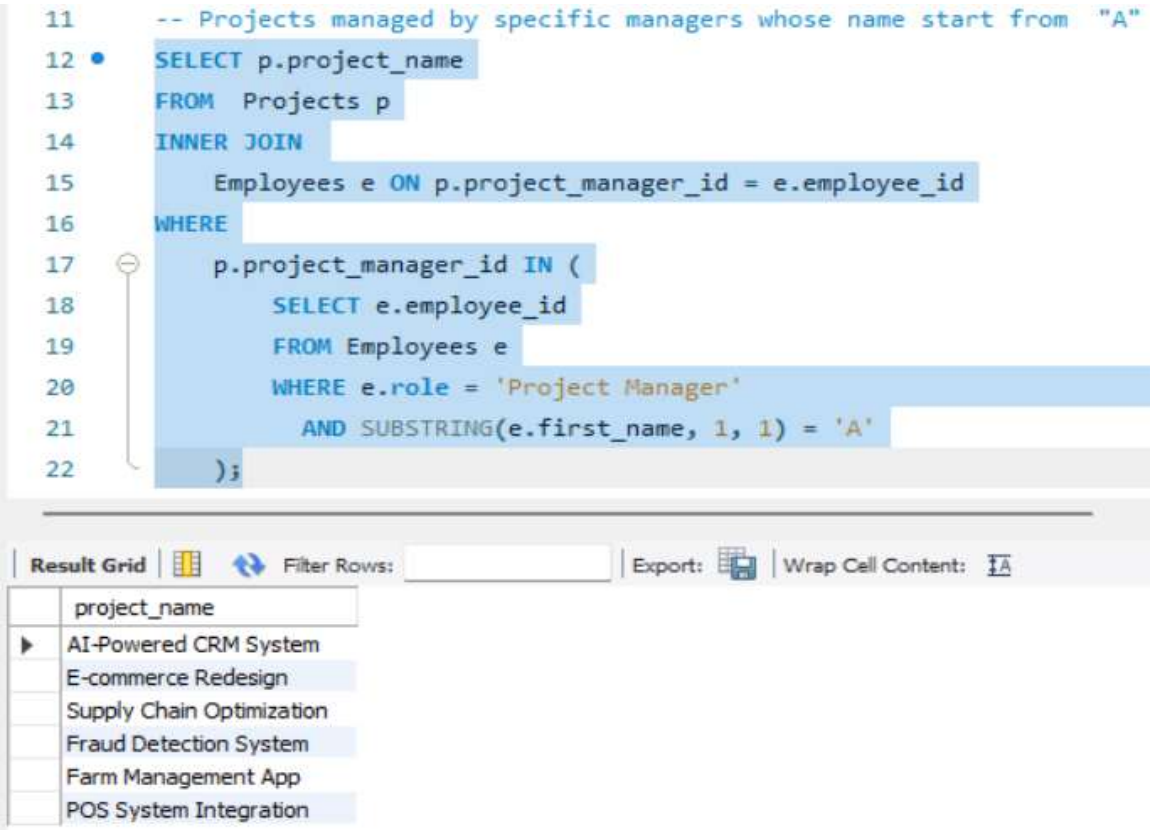
TASK 1:Clients with no completed projects:

Identify client_name of clients who have no projects with a status of 'Completed'.



TASK 2: Projects managed by specific managers:

List project_name for projects managed by project managers whose first_name starts with 'A'.



TASK 3: Top 3 industries by total revenue:

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Find the industry that generated the highest total revenue. (This might be a simple GROUP BY and ORDER BY with LIMIT/TOP, or you could think about it with a subquery if you want to explicitly find *only* the top one).

```sql
-- Top 3 industries by total revenue:
SELECT c.industry,SUM(s.revenue) AS total_revenue
FROM Clients c
INNER JOIN Sales s ON s.client_id=c.client_id
GROUP BY c.industry
ORDER BY total_revenue  DESC
LIMIT 3;
```

Result Grid | Filter Rows: | Export: | Wrap Cell

industry	total_revenue
Finance	665000.00
Automotive	550000.00
Healthcare	390000.00

TASK 4: Projects with above-average budget for their industry:

For each project, show project_name, budget, and the industry it belongs to, but only if its budget is higher than the average budget of projects in that same industry.

```sql
-- Projects with above-average budget for their industry:
SELECT p.project_name, p.budget,c.industry
FROM Projects p
INNER JOIN Clients c ON p.client_id = c.client_id
WHERE
    p.budget > (
        SELECT AVG(sub_p.budget)
        FROM Projects sub_p
        INNER JOIN Clients sub_c ON sub_p.client_id = sub_c.client_id
        WHERE sub_c.industry = c.industry
    );
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

project_name	budget	industry
Supply Chain Optimization	160000.00	Technology
Telemedicine Platform	200000.00	Healthcare
E-commerce Redesign	120000.00	Retail
Personalized Marketing Engine	110000.00	Retail
Fraud Detection System	220000.00	Finance
Student Management System	100000.00	Education
Autonomous Driving Software	300000.00	Automotive

TASK 5: Sales impact of highly-rated projects:

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Calculate the total revenue generated from sales associated with projects that have a delivery_rating of 5.

```
44    -- Sales impact of highly-rated projects
45 •  SELECT p.project_name,p.delivery_rating,SUM(s.revenue) as total_revenue
46    FROM Projects p
47    INNER JOIN Sales s ON s.project_id=p.project_id
48    WHERE delivery_rating='5'
49    GROUP BY p.project_name
50    ORDER BY total_revenue DESC;
51
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

project_name	delivery_rating	total_revenue
Investment Analytics Tool	5	180000.00
AI-Powered CRM System	5	150000.00
E-commerce Redesign	5	120000.00
POS System Integration	5	95000.00

TASK 6: Categorize projects by profit/loss:

Create a query that shows project_name, budget, actual_cost, and a new column called profit_status. profit_status should be 'Profitable' if budget > actual_cost, 'Break-even' if budget = actual_cost, and 'Loss' if budget < actual_cost.

```
52    -- Categorize projects by profit/loss:
53 •  SELECT
54        project_name,
55        budget,
56        actual_cost,
57        CASE
58            WHEN budget > actual_cost THEN 'Profitable'
59            WHEN budget = actual_cost THEN 'Break-even'
60            WHEN budget < actual_cost THEN 'Loss'
61            ELSE 'Unknown'
62        END AS profit_status
63    FROM
64        Projects;
```

Result Grid | Filter Rows: | Export: | Wrap Cell Conte

project_name	delivery_rating	total_revenue
Investment Analytics Tool	5	180000.00
AI-Powered CRM System	5	150000.00
E-commerce Redesign	5	120000.00
POS System Integration	5	95000.00