**📘 Day 47 – SQL Challenge**

**Dataset: Online Learning Platform**

**Students**

|  |  |  |  |
| --- | --- | --- | --- |
| **StudentID** | **Name** | **Country** | **JoinDate** |
| 1 | Alice | USA | 2022-01-01 |
| 2 | Bob | India | 2022-02-15 |
| 3 | Charlie | UK | 2022-03-20 |
| 4 | David | Canada | 2022-04-10 |
| 5 | Emma | India | 2022-05-05 |

**Courses**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **CourseID** | **CourseName** | **Category** | **Price** | **LaunchDate** |
| 101 | SQL Basics | Data | 100 | 2022-01-01 |
| 102 | Advanced SQL | Data | 150 | 2022-03-01 |
| 103 | Python for DataSci | Programming | 200 | 2022-02-01 |
| 104 | Machine Learning | AI | 250 | 2022-05-01 |
| 105 | Cloud Computing | IT | 300 | 2022-06-01 |

**Enrollments**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **EnrollID** | **StudentID** | **CourseID** | **EnrollDate** | **Status** | **Progress** |
| 1 | 1 | 101 | 2022-01-10 | Completed | 100 |
| 2 | 1 | 102 | 2022-03-15 | In Progress | 60 |
| 3 | 2 | 103 | 2022-02-20 | Completed | 100 |
| 4 | 3 | 101 | 2022-03-25 | Completed | 100 |
| 5 | 3 | 104 | 2022-06-01 | In Progress | 40 |
| 6 | 4 | 105 | 2022-07-10 | Completed | 100 |
| 7 | 5 | 102 | 2022-06-20 | Dropped | 10 |
| 8 | 5 | 104 | 2022-07-15 | In Progress | 70 |

**❓ Day 47 Questions (Intermediate → Advanced)**

1. **Revenue per Course**  
   Calculate total revenue generated per course (only Completed enrollments).
2. **Top Performing Students**  
   Find students who completed **more than 1 course**.
3. **Course Popularity Ranking**  
   Rank courses by the total number of enrollments.
4. **Student Engagement**  
   Find students who have at least **one In Progress course with >50% progress**.
5. **Country-Wise Revenue Contribution**  
   Show revenue contribution by country and rank them.
6. **Window Function – Enrollment Timeline**  
   For each student, display their enrollments along with the **previous course enrolled** (use LAG).
7. **Dropout Analysis**  
   Find percentage of courses that were Dropped vs total enrollments, month-wise.
8. **High-Value Students**  
   Students whose **average completed course spend > $200**.
9. **Learning Path**  
   Using a **recursive CTE**, build a path showing students who completed **SQL Basics (101)** → then took **Advanced SQL (102)**.
10. **Category-Wise Insights**  
    Find the **average price, total enrollments, and completion rate** for each course category.

**🎯 Bonus Challenge (Advanced)**

1. **Course Completion Funnel Analysis**  
   Build a query to show a **funnel** for each course:

* Total Enrollments
* % In Progress
* % Completed
* % Dropped