**A blue and white logo

AI-generated content may be incorrect.SQL ASSESSMENT WORKBOOK V2 Step-2: Preventive Controls – Automated Reconciliation, Monitoring, and Business Rule Validation**

**EduFin SQL Skill Assessment Workbook: Step 2 Evaluation**

**Program: Skill AI Path – Data Analyst Pretraining Track  
Module: EduFin Risk Analytics Simulation  
Assessment Type: SQL Query Writing + Business Understanding  
Prepared For: EduFin Data Analyst Cohort  
Organization: Krishnav Tech | Skill AI Path**

**Objective :**

To assess learners’ ability to:

* Design automated reconciliation queries for early detection.
* Build real-time data quality monitoring checks.
* Write SQL-driven business rule validations to prevent future discrepancies.

# SQL Skill Check Assessment – Pretraining Workbook

## PART A: Query Writing (60 points)

**Q1 (10 pts) — Automated Reconciliation**  
Write a query to automatically reconcile loans vs payments: return loan\_id, disbursed\_amount, total\_payments, and a flag column showing "Mismatch" if total\_payments < disbursed\_amount.

**Your Answer:**

**Q2 (10 pts) — Institution Reconciliation Summary**  
Generate a monthly summary for each institution comparing SUM(loan\_amount) vs SUM(reported\_amount) and flag months where the difference exceeds 5%.

**Your Answer:**

**Q3 (10 pts) — Real-time Null Check**  
Write a query to detect and count rows in loans where mandatory fields are missing (loan\_id, disbursement\_date, loan\_amount).

**Your Answer:**

**Q4 (10 pts) — Business Rule Validation**  
Enforce the rule: “loan\_amount cannot exceed ₹50 lakhs for Tier-3 institutions.”  
Return all violations with institution\_id, loan\_id, and loan\_amount.

**Your Answer:**

**Q5 (10 pts) — Monitoring Trend**  
Create a query to show the daily count of new loans where reported\_amount = 0. Order by date descending.

**Your Answer:**

**Q6 (10 pts) — Consolidated Risk Report**  
Write a query returning, for each institution:

* total loans,
* loans failing null checks,
* loans violating business rules,
* reconciliation mismatch count.

**Your Answer:**

## PART B: Multiple Choice (40 points)

**Q7:** Which SQL clause is best for filtering aggregated results where discrepancy > 5%?  
A) WHERE  
B) HAVING  
C) GROUP BY  
D) DISTINCT

**Answer:**

**Q8:** Which function helps detect NULLs during real-time monitoring?  
A) COUNT(\*)  
B) COALESCE()  
C) ROUND()  
D) DATEPART()

**Answer:**

**Q9:** In automated reconciliation, why compare SUM(loan\_amount) with SUM(reported\_amount) monthly?  
A) To identify systemic misreporting patterns  
B) To speed up performance  
C) To enforce referential integrity  
D) To count total rows

**Answer:**

**Q10:** Which SQL construct can generate a "Mismatch" flag column?  
A) GROUP BY  
B) CASE  
C) JOIN  
D) RANK()

**Answer:**

**Q11:** What is the advantage of real-time data quality monitoring?  
A) Detecting issues only after audit  
B) Catching anomalies as soon as data enters the system  
C) Reducing query execution time  
D) Improving foreign key indexing

**Answer:**

**Q12:** Which of the following is a valid business rule in Step 2 context?  
A) loan\_amount > 0 and disbursement\_date IS NOT NULL  
B) reported\_amount < 0  
C) allow Tier-3 institutions unlimited loans  
D) ignore missing disbursement dates

**Answer:**

**Q13:** To ensure reconciliation runs automatically daily, which SQL element would you use with scheduling?  
A) Trigger or scheduled job (outside SQL engine)  
B) WHERE clause  
C) UNION ALL  
D) SELECT DISTINCT

**Answer:**

**Q14:** What’s the key difference between Step 1 and Step 2 SQL checks?  
A) Step 1 = validation of past data; Step 2 = building preventive controls  
B) Step 1 = reconciliation; Step 2 = duplicate detection  
C) Step 1 = null checks; Step 2 = joins only  
D) No difference

**Answer:**

**Q15:** Which SQL query pattern is most aligned with “Enhanced business rule validation”?  
A) CASE + HAVING  
B) INSERT INTO  
C) ORDER BY  
D) LIMIT

**Answer:**

**Q16:** Which of these best describes “automated reconciliation process”?  
A) Manually checking loan ledgers quarterly  
B) Scheduled SQL queries comparing system vs reported values  
C) Creating backup tables  
D) Dropping duplicates

## Passing Criteria

* Minimum score: **80/100**
* Query section: **≥ 48/60**
* MCQ section: **≥ 32/40**
* Time: **90 minutes**

## Skills Validated

* Ability to build **automated reconciliation SQL**
* Design of **real-time monitoring queries**
* Application of **business rule validations in SQL**
* Preventive mindset: **not just detecting, but avoiding recurrence**

## Trainer Notes

* Begin with a **simple mismatch query (Q1)** to show how reconciliation automates itself.
* Reinforce **CASE usage** in flagging business rule violations.
* Encourage using **scheduled jobs / triggers** for Step 2 automation.
* Tie SQL directly to **prevention**, not just detection.

© 2025 Skill AI Path. All Rights Reserved.  
Created by: Viresh Gendle | [tech@skillaipath.com](mailto:tech@skillaipath.com) | [skillaipath.com](http://skillaipath.com/)  
Licensed for educational and internal business use.  
Attribution required when sharing. Commercial redistribution prohibited.