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AI-generated content may be incorrect.SQL ASSESSMENT WORKBOOK V2 Step-4: Process Improvements – Loan Origination, Payments, Risk Models**

**EduFin SQL Skill Assessment Workbook: Step 4 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:

* Detect inefficiencies in loan origination.
* Monitor and optimize payment workflows.
* Validate improvements to risk assessment models using SQL.

# SQL Skill Check Assessment – Pretraining Workbook

## PART A: Query Writing (60 points)

**Q1 (10 pts) — Loan Origination Delays**  
Find the average time (days) between application\_date and disbursement\_date for each institution. Return top 5 institutions with the highest average delay.

**Your Answer:**

**Q2 (10 pts) — Origination Null Check**  
Write a query to list loans where disbursement\_date is missing more than 7 days after application\_date.

**Your Answer:**

**Q3 (10 pts) — Payment Workflow Bottlenecks**  
For each payment\_channel (e.g., bank\_transfer, UPI, cash), calculate the average processing time between payment\_date and settlement\_date.

**Your Answer:**

**Q4 (10 pts) — Failed vs Successful Payments**  
Return the failure\_rate (%) per institution:

failure\_rate = (failed\_payments \* 100) / total\_payments

**Your Answer:**

**Q5 (10 pts) — Risk Model Backtesting**  
For each loan, compare predicted\_risk\_score vs actual\_default\_flag.  
Return counts of:

* True Positives (predicted high risk & defaulted)
* False Negatives (predicted low risk but defaulted).

**Your Answer:**

**Q6 (10 pts) — Consolidated Risk Process Report**  
Return institution\_name, avg\_origination\_delay, payment\_failure\_rate, and accuracy of risk\_score (TP% vs FN%).

**Your Answer:**

## PART B: Multiple Choice (40 points)

**Q7:** What metric highlights inefficiency in loan origination?  
A) Loan\_id count  
B) Avg delay between application and disbursement  
C) SUM(loan\_amount)  
D) COALESCE on loan\_id

**Answer:**

**Q8:** Which SQL function helps calculate days between two dates?  
A) ROUND()  
B) DATEDIFF()  
C) LENGTH()  
D) RANK()

**Answer:**

**Q9:** High payment failure\_rate indicates:  
A) Smooth workflow  
B) Bottlenecks or system errors in processing  
C) Faster processing  
D) Accurate reconciliation

**Answer:**

**Q10:** Backtesting a risk model with SQL means:  
A) Comparing predicted scores with actual outcomes  
B) Grouping loans by tier only  
C) Running SELECT without WHERE  
D) Dropping defaulted loans

**Answer:**

**Q11:** Which SQL construct flags risk model misclassification?  
A) CASE  
B) DISTINCT  
C) ORDER BY  
D) COALESCE

**Answer:**

**Q12:** A high proportion of False Negatives means:  
A) Model overestimates risk  
B) Model misses risky loans → dangerous for business  
C) Model predicts defaults accurately  
D) Payments are delayed

**Answer:**

**Q13:** Which analytic step ties directly to payment workflow improvement?  
A) Loan origination delay analysis  
B) Payment channel processing time analysis  
C) Risk backtesting  
D) Portfolio segmentation

**Answer:**

**Q14:** If settlement\_date is NULL but payment\_date is filled, what does it indicate?  
A) Payment settled  
B) Payment still pending  
C) Risk model error  
D) Origination delay

**Answer:**

**Q15:** What is the purpose of backtesting?  
A) To validate predictive models against historical data  
B) To reconcile payments  
C) To check NULLs  
D) To assign partnership tiers

**Answer:**

**Q16:** Which scope best matches Step 4?  
A) Process improvement in origination, payments, risk models  
B) Only detecting anomalies  
C) Only customer segmentation  
D) Only geography-based checks

**Answer:**

## Passing Criteria

* Minimum Score Required: **80 out of 100**
* Query Writing: **At least 48/60**
* MCQ Section: **At least 32/40**
* Time Limit: **90 minutes**
* Retakes Allowed: Unlimited until 80% is achieved

## Skills Validated

* Origination process gap detection
* Payment workflow efficiency checks
* Risk model backtesting with SQL
* Consolidated institutional reporting

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