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AI-generated content may be incorrect.SQL ASSESSMENT WORKBOOK V2 Step-5: Risk Management Optimization – Predictive, Dynamic, Automated**

**EduFin SQL Skill Assessment Workbook: Step 5 Evaluation**

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

**Objective**

To assess learners’ ability to:

* Build predictive insights for early default detection.
* Create dynamic risk scoring across multiple factors.
* Simulate automated alert systems with SQL conditions.

# SQL Skill Check Assessment – Pretraining Workbook

## PART A: Query Writing (60 points)

**Q1 (10 pts) — Early Default Signals**  
Find customers with 2+ missed payments in the last 90 days. Return loan\_id, institution\_name, missed\_payment\_count.

**Your Answer:**

**Q2 (10 pts) — Predictive Default Risk Flag**  
Using payment history, flag loans where delayed\_payment\_ratio > 0.3. Return loan\_id, ratio, and "High Default Risk".

**Your Answer:**

**Q3 (10 pts) — Dynamic Risk Score**  
Calculate a composite score =

(0.5 \* payment\_history\_score) + (0.3 \* income\_to\_loan\_ratio) + (0.2 \* institution\_error\_rate)

Return top 10 highest risk loans.

**Your Answer:**

**Q4 (10 pts) — Tiered Risk Segmentation**  
Classify loans into:

* High Risk (score > 0.7),
* Medium Risk (0.4–0.7),
* Low Risk (<0.4).

**Your Answer:**

**Q5 (10 pts) — Automated Alerts**  
Simulate an alert system: return loans where

* High Risk **AND** missed payments ≥ 3
* OR disbursement\_delay > 15 days.

**Your Answer:**

**Q6 (10 pts) — Portfolio Risk Dashboard (SQL View)**  
Create a query/view that outputs: institution\_name, total\_loans, high\_risk\_count, medium\_risk\_count, low\_risk\_count, default\_rate.

**Your Answer:**

## PART B: Multiple Choice (40 points)

**Q7:** Which SQL construct simulates automated alert rules?  
A) CASE + WHERE  
B) GROUP BY only  
C) DISTINCT  
D) UNION

**Answer:**

**Q8:** Which analytic focus helps detect default early?  
A) Loan origination  
B) Missed payments trend  
C) Geographic discrepancies  
D) Partnership tier averages

**Answer:**

**Q9:** Dynamic risk scoring involves:  
A) Using multiple weighted factors  
B) Random loan selection  
C) Only default flag = 1  
D) Ignoring income ratios

**Answer:**

**Q10:** Which SQL function helps compute a weighted score?  
A) SUM()  
B) Arithmetic expressions with multipliers  
C) ROUND() only  
D) STRING\_AGG()

**Answer:**

**Q11:** If a loan has score 0.8 and 3 missed payments, it should trigger:  
A) No action  
B) High risk + automated alert  
C) Medium risk classification  
D) Origination delay

**Answer:**

**Q12:** Why create SQL views for risk dashboards?  
A) To store permanent backups  
B) To predefine queries for repeated monitoring  
C) To drop constraints  
D) To improve text formatting

**Answer:**

**Q13:** Predictive models in Step 5 SQL focus on:  
A) Using historical trends to anticipate defaults  
B) Counting total loans only  
C) Removing NULLs  
D) Tiering institutions

**Answer:**

**Q14:** Dynamic risk scoring ensures:  
A) Risk is assessed on multiple factors, not single fields  
B) SQL runs faster  
C) Partnerships are removed  
D) Errors are hidden

**Answer:**

**Q15:** What is the Step 5 focus area?  
A) Preventing recurrence of past issues  
B) Optimizing risk management with predictive, dynamic, automated SQL checks  
C) Geographic partnership issues  
D) Payment workflow delays

**Answer:**

**Q16:** Which SQL keyword is key for portfolio-level dashboards?  
A) CREATE VIEW  
B) TRUNCATE TABLE  
C) DROP INDEX  
D) INSERT INTO

**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

* SQL for **predictive default detection**
* Building **dynamic risk scoring systems**
* Simulating **alerts and dashboards** in SQL
* Transitioning from detection → prevention → **optimization**

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