



DataDesk Tools
DATA TOOLKITS AND WORKFLOW ASSETS

SQL Debugging Checklist

Use this checklist before trusting a query result in a report, dashboard, export, or business analysis.

by Data Desk Tools

Published by Data Desk Tools. © 2026 Data Desk Tools. All rights reserved. Licensed for personal use only. Redistribution, resale, sharing, sublicensing, or uploading to marketplaces is not permitted.

Start small

Run `SELECT *` on a small sample first.

Confirm table and column names.

Check obvious unexpected values.

Check row counts

Count rows in each source table.

Count rows after every JOIN.

If rows multiply, check duplicates on the join keys.

Validate joins

Test INNER JOIN and LEFT JOIN separately.

Check unmatched rows using `WHERE right_table.key IS NULL`.

Never assume a key is unique without testing it.

Validate filters

Apply date filters first.

Check if timestamp fields include time.

Avoid BETWEEN for full-month timestamp filters when possible.

Validate calculations

Check NULL values before division.

Use `NULLIF` to avoid division by zero.

Use `COALESCE` only when the fallback value is business-correct.

Validate aggregation

Every non-aggregated selected field normally needs GROUP BY.

Check totals before and after aggregation.

Compare final totals with a trusted report.

Validate output

Confirm output column names match the business need.

Check if the query is report-ready for Excel or Power BI.

Save the final query with a clear name and comments.