Analyst - Test Instructions

# Introduction

The test consists of two parts, one focused on SQL skills and one focused on PowerBI knowledge.

The output of the first part is used as a data source for the second part. In case you are not able to reach the necessary output format from the first part, please get in touch with us, we will provide you with an alternate source.

Selected tasks are marked as **Bonus**, their completion is not obligatory – feel free to submit the solution without them. If you have a general idea for how to solve these but not a specific implementation, feel free to submit that as well.

In case you are not able to complete any of the tasks below, please summarize the issues you are facing and how you approached the task in your submission.

# Part 1 – SQL

Go to <https://sqliteonline.com/> and import the content of the Handoff.sql, Tasks.sql, and Base.sql files in the SQLite Database.

**Warning**: Be careful not to press F5 to run a query, it refreshes the page, and you will lose your entire progress.

When finished, please send us the result via email. Use comments as you see fit.

## Tasks

1. Create output that contains columns: HandoffSK, HandoffID, ProjectNo, SourceLanguageCode, HandoffStateName, Handoff, CreatedDate of Handoff, CompletedDate of Handoff, Wordcount per Handoff, and Priority.
2. Include calculated column which will determine Priority of Handoff based on Classification Column as:
   * Classification “H” = Priority “0”
   * Classification “M” = Priority “1”
   * Classification “L” = Priority “2”
   * If classification is not specified, the priority should be 3.
3. Output shouldn't contain any Cancelled Handoffs.
4. Export the output and use it as source (Datasource-Production) for PowerBI test.

## Bonus tasks

1. What percentage of Handoffs have EN-US as SourceLanguageCode?
2. Is there any handoff that doesn’t have any valid records (has only non-current records)? If so, list HandoffID of those handoffs.
3. Based on Classification of Handoff calculate Due Date of Tasks, with the following logic and determine if task was delivered “Late”, “On-time” or if it’s not possible to assess.
   * Priority 0: 1 day from created date
   * Priority 1: 3 days from created date
   * Priority 2: 5 days from created date
   * Priority 3: 10 days from created date)

Part 2 – Power BI

## Background Information:

* Audience: project manager who is reasonably capable but doesn't have a lot of data-related experience
* Main purpose:
  + Have an overview of the trends in customer's handoffs (language, priority, word count, etc.)
  + Have an overview of their team's on-time-delivery performance
* Design: There are no specific design instructions, feel free to use whatever layout, color theme, and conditional formatting that you consider reasonable.

Tasks

1. Connect to data sources Production and Costs.
2. Calculate Expected delivery based on the following conditions.
   * Priority 0: 1 business day from created date\*
   * Priority 1: 3 business days from created date
   * Priority 2: 5 business days from created date
   * Priority 3: 10 business days from created date

*\*By business days, we understand Monday-Friday. Public holidays and time are irrelevant in this case*

1. Calculate if each handoff has been completed on time (completed date <= expected delivery).
2. Calculate and display on-time-delivery percentage. (on time handoffs to total number of handoffs)
3. For every month, calculate and display the number of languages that have On-time-delivery < 65 %.
4. For every day, display the first three Priority 0 handoffs (by created date)
5. Display the trend for wordcount vs. cost by Year, Quarter and Month
6. Display cumulative wordcount for the entire year (e.g. March will display the sum of wordcounts from January, February and March).
7. For each month, calculate and display the wordcount difference compared to the previous month, both as a value and as a percentage.
8. Create a filter/slicer for the last 6 calendar months + the current month (e.g. on 15th December, the filter will show dates from September 1st until December 15th)
9. Display distribution of handoffs by priority (both overall and time trend)
10. Display any other information and filters/slicers that you consider relevant for the main purpose of the report (see background information above)
11. Create a hidden tab that will include basic documentation for the dashboard – comments on measures used, any pain points, or other comments you consider relevant.

## Bonus tasks

Set up row-level security:

* Each user from the “Datasource-users” file should only be able to see the language they are assigned to
* The PM (the primary audience) should be able to see everything