

# Macro Case Study: Self-Guided Version

In this version of the case study, you receive the high-level requirements to solve the business problem. There are multiple solutions to the problem, and how you solve it is your choice.

To solve the business problem, you must follow the requirements below given to you by your supervisor.

## Deliverables and Requirements:

Your job is to familiarize yourself with the **CaseStudyStart.sas** program and identify what must be edited in the program to identify the top five suppliers and create a separate PDF report for each supplier.

1. Read the comments in the **CaseStudyStart.sas** program to get familiar with the code and the edits required to generate a report for a different supplier and subset of **Order\_Type**.
2. Create a macro function named **%REPLACESPACE** that uses the **TRANWRD** function to replace all spaces in a string with underscores. Save the **replacespace.sas** macro program in the **autocall** folder and enable the autocall facility to read it.
3. Modify the code in the **CaseStudyStart.sas** program to build a macro named **%SupplierReport** with a parameter to select a particular **Order\_Type** value.
4. Validate the **ot** parameter value to ensure that it is either 1, 2, or 3. If no value is provided, write a custom message to the log. The message should indicate that a value is required and that the program will stop executing. It should also include a list of valid values. If a value other than 1, 2, or 3 is provided, write a custom error message to the log that prints a list of valid values and stops processing the rest of the program.

**Note:** Be sure to use the **MINOPERATOR** option in the **%MACRO** statement to enable the macro **IN** operator.

5. If a value of 1, 2, or 3 is provided for the parameter, subset the **OrderDetail** table based on **Order\_Type**.

Modify the **WHERE** statement in the first **PROC SQL** step to include rows where **Order\_Type** is equal to the **ot** macro variable.

6. Create a series of macro variables that will store **Supplier\_ID**, **Supplier\_Name**, **Supplier\_Country**, and **Profit** for each of the top five suppliers. For example, the macro variables **TopSupp1**, **Name1**, **Country1**, and **Profit1** will store information about the top supplier; **TopSupp2**, **Name2**, **Country2**, and **Profit2** will store information about the second-ranked supplier; and so on.
7. Create a series of macro variables named **Country\_CC** where **CC** is the two-letter **CountryCode** value read from the **mc1.country\_codes** table. Assign the corresponding **CountryName** value to each macro variable.
8. Use a macro **DO** loop to repeat Part 2 of the program five times. The first time through the loop, the program should generate the PDF report for the top supplier. The report should be modified as follows:
  - a. The prefix for each PDF file name should be the supplier rank number, 1 through 5. The name of each PDF file should be the value of **Supplier\_Name** with all spaces replaced with underscores. Use the **REPLACESPACE** custom macro function.

- b. The first title should be the rank of the supplier and then the **Supplier\_Name** value, followed by the full country name for that particular supplier (for example, *Orders for #1 Eclipse Inc, United States*).
  - c. The second title should be one of the following, depending on the value of the **ot** parameter: *Retail Sales Only*, *Catalog Sales Only*, or *Internet Sales Only*.
  - d. For the bar chart (PROC SGPLOT step), the data should be subset to include one supplier at a time.
  - e. For the report (PROC SQL step), a footnote should be added below the report that includes the date and time that the report was created. The data should also be subset to include only the top supplier.
9. Test the **%SupplierReport** macro program with parameter values of 1, 2, 3, 4, and null. Make sure that when 4 is provided, the error message is written to the log and no output is generated. Test that error messages are also generated if a null value is provided.
10. Save the **supplierreport.sas** macro program in the **autocall** folder.