SAS ADVANCED PROGRAMMING CERTIFICATION PRACTICE EXAM (SAMPLE)

STUDY GUIDE



SAMPLE STUDY GUIDE WITH LIMITED QUESTIONS

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Introduction

Preparing for a certification exam can feel overwhelming, but with the right tools, it becomes an opportunity to build confidence, sharpen your skills, and move one step closer to your goals. At Examzify, we believe that effective exam preparation isn't just about memorization, it's about understanding the material, identifying knowledge gaps, and building the test-taking strategies that lead to success.

This guide was designed to help you do exactly that.

Whether you're preparing for a licensing exam, professional certification, or entry-level qualification, this book offers structured practice to reinforce key concepts. You'll find a wide range of multiple-choice questions, each followed by clear explanations to help you understand not just the right answer, but why it's correct.

The content in this guide is based on real-world exam objectives and aligned with the types of questions and topics commonly found on official tests. It's ideal for learners who want to:

- Practice answering questions under realistic conditions,
- Improve accuracy and speed,
- Review explanations to strengthen weak areas, and
- Approach the exam with greater confidence.

We recommend using this book not as a stand-alone study tool, but alongside other resources like flashcards, textbooks, or hands-on training. For best results, we recommend working through each question, reflecting on the explanation provided, and revisiting the topics that challenge you most.

Remember: successful test preparation isn't about getting every question right the first time, it's about learning from your mistakes and improving over time. Stay focused, trust the process, and know that every page you turn brings you closer to success.

Let's begin.

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How to Use This Guide

This guide is designed to help you study more effectively and approach your exam with confidence. Whether you're reviewing for the first time or doing a final refresh, here's how to get the most out of your Examzify study guide:

1. Start with a Diagnostic Review

Skim through the questions to get a sense of what you know and what you need to focus on. Your goal is to identify knowledge gaps early.

2. Study in Short, Focused Sessions

Break your study time into manageable blocks (e.g. 30 – 45 minutes). Review a handful of questions, reflect on the explanations.

3. Learn from the Explanations

After answering a question, always read the explanation, even if you got it right. It reinforces key points, corrects misunderstandings, and teaches subtle distinctions between similar answers.

4. Track Your Progress

Use bookmarks or notes (if reading digitally) to mark difficult questions. Revisit these regularly and track improvements over time.

5. Simulate the Real Exam

Once you're comfortable, try taking a full set of questions without pausing. Set a timer and simulate test-day conditions to build confidence and time management skills.

6. Repeat and Review

Don't just study once, repetition builds retention. Re-attempt questions after a few days and revisit explanations to reinforce learning. Pair this guide with other Examzify tools like flashcards, and digital practice tests to strengthen your preparation across formats.

There's no single right way to study, but consistent, thoughtful effort always wins. Use this guide flexibly, adapt the tips above to fit your pace and learning style. You've got this!

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Questions

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1. What does an association refer to in SAS/ETS?

A. The relationship between two categorical variables

B. The relationship between variables analyzed through time series

C. The variability of a single variable over time

D. A technique for data cleansing

2. Which of the following best describes the role of the DATA step?

A. It only formats data for viewing

B. It creates or processes datasets for further analysis

C. It summarizes data into multiple output formats

D. It merges reports for final output

3. How can you validate data during the DATA step execution?

A. By using PROC PRINT to display data

B. By including conditional statements and the PUT statement

C. By sorting the data before analysis

D. By creating backup copies of the dataset

4. What is the purpose of using single quotation marks in PROC FEDSQL?

A. To define a variable name

B. To specify a text string in the WHERE clause

C. To indicate a numeric value

D. To format output

5. When might you use the OUTPUT statement in a DATA step?

A. To filter out duplicates from a dataset

B. To create a subset based on conditions

C. To merge datasets before analysis

D. To define label formats for variables

6. Which of the following is NOT a characteristic of the PICTURE statement?

A. It is applicable only in PROC FORMAT.

B. It can format date values.

C. It cannot format non-numeric values.

D. It produces templates for numeric display.

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7. In SAS, what does the DIM function do when used in conjunction with an array?

A. It returns the number of dimensions of the array

B. It returns the number of elements in the array

C. It initializes the array with default values

D. It creates a permanent array in the PDV

8. Which global option specifies the table SAS searches for a package that contains the custom function?

A. FCMPLIB=

B. LIBCMP=

C. OUTLIB=

D. CMPLIB=

9. In which PROC would you push processing into an Oracle database?

A. PROC SQL

B. PROC FEDSQL

C. PROC IMPORT

D. PROC EXPORT

10. What ensures the rows in your output are in a specific order?

A. ORDER BY clause

B. SORT clause

C. GROUP BY clause

D. ARRANGE clause

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Answers

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1. B
2. B
3. B
4. B
5. B
6. C
7. B
8. D
9. B
10. A

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Explanations

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1. What does an association refer to in SAS/ETS?

A. The relationship between two categorical variables

B. The relationship between variables analyzed through time series

C. The variability of a single variable over time

D. A technique for data cleansing

An association in the context of SAS/ETS particularly pertains to time series analysis, where it examines the relationship between variables as they change over time. This analysis is crucial for understanding trends, cycles, and seasonal variations in time-dependent data. By focusing on the relationships among variables analyzed in this temporal context, one can make forecasts, identify patterns, and infer causal relationships that occur due to time-related effects. This distinction is essential because it highlights the significance of temporal dynamics in analyzing relationships, as opposed to simply assessing static relationships or variability of single variables, which might not capture the influence of time. Therefore, understanding association in time series is integral to making informed decisions based on historical data trends and forecasts, making this option the most appropriate choice in the SAS/ETS framework.

2. Which of the following best describes the role of the DATA step?

A. It only formats data for viewing

B. It creates or processes datasets for further analysis

C. It summarizes data into multiple output formats

D. It merges reports for final output

The role of the DATA step in SAS is primarily to create or process datasets that are essential for further analysis. This step is fundamental in the programming process, as it allows users to read in raw data, manipulate it, and then write it out into SAS dataset format. During the DATA step, various operations can be performed, including but not limited to data transformation, subsetting, creating new variables, and applying conditional logic. The capability to generate new datasets from existing data is a critical aspect of data analysis workflows, making the DATA step indispensable for preparing data for statistical procedures and reporting tasks. This functionality goes beyond merely formatting data for viewing or assembling reports, as it involves a more comprehensive set of actions related to dataset creation and manipulation that set the stage for deeper analytical processes.

3. How can you validate data during the DATA step execution?

A. By using PROC PRINT to display data

B. By including conditional statements and the PUT statement

C. By sorting the data before analysis

D. By creating backup copies of the dataset

Validating data during the DATA step execution is effectively achieved by including conditional statements combined with the PUT statement. This approach allows programmers to assess and confirm the integrity and correctness of their data as it is being processed. When conditional statements are used, one can implement logical checks to verify that data meets certain criteria. For instance, you can check for missing values, ensure that data falls within expected ranges, or validate that categorical variables contain expected values. The PUT statement then enables the output of messages or variable values to the log, allowing programmers to monitor these validations in real-time as the DATA step executes. This immediate feedback helps in identifying and addressing data issues promptly during processing. In contrast, while using PROC PRINT to display data can be helpful for reviewing and debugging after the DATA step has completed, it does not provide real-time validation during execution. Similarly, sorting data might assist with organization but does not validate correctness. Creating backup copies of the dataset is a good practice for data management but does not facilitate the validation of specific data integrity during the processing phase. Thus, incorporating conditional checks and the PUT statement is the most effective means of validating data dynamically within the DATA step.

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4. What is the purpose of using single quotation marks in PROC FEDSQL?

A. To define a variable name

B. To specify a text string in the WHERE clause

C. To indicate a numeric value

D. To format output

Using single quotation marks in PROC FEDSQL serves the purpose of specifying a text string, particularly in the WHERE clause. In SQL, including PROC FEDSQL, text strings must be enclosed in quotation marks to distinguish them from other data types, such as variable names or numeric values. When you specify a condition in a WHERE clause, you often compare a column's value to a text string. For example, if you wanted to filter records where a column called "Country" is equal to "USA", you would write it as `WHERE Country = 'USA'`. The single quotation marks around 'USA' clearly indicate that this is a string value being used in the comparison. Other applications of quotation marks are not applicable in this context. Variable names do not require quotation marks and can exist independently. Numeric values are typically not enclosed in quotes, as quotes might indicate a different data type or lead to errors. Formatting output is managed separately through format specifications and does not pertain to the utilization of single quotation marks in PROC FEDSQL. Thus, using single quotation marks is essential for correctly interpreting and executing string comparisons in PROC FEDSQL, especially within the WHERE clause.

5. When might you use the OUTPUT statement in a DATA step?

A. To filter out duplicates from a dataset

B. To create a subset based on conditions

C. To merge datasets before analysis

D. To define label formats for variables

The OUTPUT statement is primarily used within a DATA step to write observations to a dataset. It allows for control over which observations are written and can be particularly useful when creating subsets based on specific conditions. By using the OUTPUT statement strategically, a programmer can selectively output records that meet particular criteria, thus allowing for customized dataset creation tailored to analysis needs. When you create a subset of data, you may have conditions that determine whether or not certain observations should be included. By employing the OUTPUT statement in conjunction with conditional logic (like IF-THEN statements), you can effectively manage the observations that are written to the new dataset. This makes it a valuable tool for data manipulation and preparation prior to further analysis. In contrast, the other options involve different functionalities that do not align with the purpose of the OUTPUT statement. For instance, filtering out duplicates is typically done using the SORT procedure with the NODUPKEY option rather than through the OUTPUT statement. Merging datasets usually utilizes the MERGE statement in conjunction with a BY statement, while defining label formats is done via the FORMAT statement. Each of these tasks is handled in a manner distinct from the specific intentions behind using the OUTPUT statement in a DATA step.

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6. Which of the following is NOT a characteristic of the PICTURE statement?

A. It is applicable only in PROC FORMAT.

B. It can format date values.

C. It cannot format non-numeric values.

D. It produces templates for numeric display.

The statement correctly identifies that the PICTURE statement cannot format non-numeric values. The PICTURE statement is primarily designed for numeric data types, allowing users to define a range of formatting options for numbers, such as specifying how many decimal places to display, adding characters for thousands separators, or defining how negative numbers appear. In contrast, the first choice emphasizes that the PICTURE statement is specific to PROC FORMAT, which is true since this procedure is where the statement is utilized to create custom formats. The second choice correctly notes that it can also format date values, as numeric formats in SAS can sometimes be applied to datetime values as well. The fourth choice highlights that the PICTURE statement is used to create templates that define how numeric data should be displayed, showcasing its purpose effectively. By understanding that the PICTURE statement is meant for numeric formatting and does not cater to non-numeric data types, one can clearly define its limitations as a characteristic.

7. In SAS, what does the DIM function do when used in conjunction with an array?

A. It returns the number of dimensions of the array

B. It returns the number of elements in the array

C. It initializes the array with default values

D. It creates a permanent array in the PDV

The DIM function in SAS is designed to provide the number of elements in an array. When you declare an array in SAS, the DIM function can be utilized to get the size of that array, which refers to how many variables or elements are included within it. This capability is crucial when iterating through the elements of the array or when performing operations that require an understanding of how many elements are being referenced. Understanding the distinction between arrays and their dimensions is important, as a one-dimensional array would just have a length defined by its number of elements. While two-dimensional arrays do exist in SAS, typically the DIM function is used to address a specific array of single dimension to determine its length directly. This role is fundamental in the manipulation of data, allowing programmers to dynamically handle datasets based on their varying sizes. The other possible answers do not accurately reflect the functionality of the DIM function within the context of an array. For instance, while one might consider dimensions in relation to arrays, the DIM function does not return the number of dimensions but rather focuses on counting elements. Initialization of arrays with default values or creating permanent arrays are functions that would involve different statements and procedures in SAS, thus further clarifying the specificity of the DIM function's role.

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8. Which global option specifies the table SAS searches for a package that contains the custom function?

A. FCMPLIB=

B. LIBCMP=

C. OUTLIB=

D. CMPLIB=

The global option that specifies the table SAS searches for a package containing the custom function is CMPLIB=. This option tells SAS where to look for compiled functions, which are often stored in a library. By using the CMPLIB= option, you can define one or more libraries where SAS should search for compiled functions that have been created using the SCL (SAS Component Language) or other programming methodologies. Utilizing this option is essential for ensuring that your custom functions are accessible to your SAS session, enhancing modular programming and code reuse. When you specify the CMPLIB= option with the appropriate library reference, SAS performs a search in that library for any available compiled routines. This allows users to utilize custom functions seamlessly, promoting efficiency and organization in the programming process. Other options do not serve this specific purpose. FCMPLIB= is related to the function compiler library, while LIBCMP= is used in the context of library compilation settings but is not directly focused on function discovery. OUTLIB= specifies output libraries for certain procedures but does not concern the location of custom functions. Therefore, CMPLIB= is the correct choice for specifying where to search for a package containing custom functions in SAS.

9. In which PROC would you push processing into an Oracle database?

A. PROC SQL

B. PROC FEDSQL

C. PROC IMPORT

D. PROC EXPORT

The choice of PROC FEDSQL is correct for pushing processing into an Oracle database because it is specifically designed to execute SQL queries directly against databases, including Oracle, while leveraging the capabilities of those databases for processing. This procedure allows users to write SQL queries that can be executed on remote database systems, which minimizes the amount of data transferred and enhances performance by executing the logic directly on the server. In contrast, PROC SQL also allows interfacing with databases and executing SQL queries, but it generally operates within the SAS environment itself. Although you can perform operations like connecting to a database and running queries, PROC SQL may not fully utilize the performance advantages that come from executing processing within the Oracle environment. PROC IMPORT and PROC EXPORT are used for data transfer operations—importing data from an external source into a SAS dataset and exporting a SAS dataset to an external format, respectively. These procedures do not focus on executing queries or pushing processing to a database, making them unsuitable for the specific need to push processing into an Oracle database.

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10. What ensures the rows in your output are in a specific order?

A. ORDER BY clause

B. SORT clause

C. GROUP BY clause

D. ARRANGE clause

The ORDER BY clause is the mechanism that ensures the rows in your output are presented in a specific order. When used in a SQL query or a SAS procedure, it allows you to define the criteria for sorting the result set based on one or more columns. For example, if you want to display a dataset sorted by a specific variable, you would specify that variable within the ORDER BY clause. This ensures that the output is comprehensive and easy to analyze, following a logical sequence, such as ascending or descending numerical values, dates, or alphabetical order based on text fields. The SORT clause, while it sounds similar, is typically used in the context of SAS procedures to sort datasets before processing or outputting the data, and it may not guarantee that the output from a DATA step or PROC step remains sorted in the way that the ORDER BY clause does. GROUP BY is employed for grouping rows sharing the same values in specified columns but does not control the order of output rows. The ARRANGE clause is not part of standard SQL or SAS syntax, making it irrelevant for this context. Using the ORDER BY clause is essential when analysts need their outputs to be in a particular sequence, thus enhancing data readability and interpretation.

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Next Steps

Congratulations on reaching the final section of this guide. You've taken a meaningful step toward passing your certification exam and advancing your career.

As you continue preparing, remember that consistent practice, review, and self-reflection are key to success. Make time to revisit difficult topics, simulate exam conditions, and track your progress along the way.

If you need help, have suggestions, or want to share feedback, we'd love to hear from you. Reach out to our team at hello@examzify.com.

Or visit your dedicated course page for more study tools and resources:

https://sasadvprogramming.examzify.com

We wish you the very best on your exam journey. You've got this!

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