Statistical Analysis System (SAS) Programming Certification Practice Exam (Sample)

Study Guide

BY EXAMZIFY

Everything you need from our exam experts!

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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.

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!

Questions

1. **How do you create an index on a SAS dataset?**
   - **A. By using the CREATE INDEX statement in a DATA step**
   - **B. By using the INDEX statement in a DATA step or CREATE INDEX in PROC SORT**
   - **C. By specifying indices in the data definition step**
   - **D. By manually organizing data within the dataset**

2. **Which file is loaded by the links in D:\Output\contents.html according to the provided code?**
   - **A. D:\Output\body.html**
   - **B. D:\Output\contents.html**
   - **C. D:\Output\frame.html**
   - **D. There are no links from the file D:\Output\contents.html.**

3. **When you specify an engine for a library, what are you specifying?**
   - **A. the file format for files that are stored in the library**
   - **B. the version of SAS that you are using**
   - **C. access to other software vendors' files**
   - **D. instructions for creating temporary SAS files**

4. **Which type of delimited file does PROC IMPORT read by default?**
   - **A. logical record-length files**
   - **B. varying record-length files**
   - **C. fixed record-length files**
   - **D. illogical record-length files**

5. **In a SAS DATA step, what would be the result of executing code using the _NULL_ data set?**
   - **A. A new dataset will always be created.**
   - **B. Not creating any output data set.**
   - **C. The program will terminate with an error.**
   - **D. It will only store the last variable in memory.**

6. In PROC SQL, what is the effect of using the DISTINCT keyword?

A. It modifies the data structure

B. It removes duplicate rows from the output

C. It adds new rows to the dataset

D. It counts the number of unique values

7. What does the DATA step do after successfully executing the program?

A. It creates a new dataset with no errors.

B. It compiles the data but does not execute.

C. It detects and corrects variable length issues.

D. It produces logs of all observations.

8. What is the significance of the _NULL_ data set in SAS?

A. The _NULL_ data set is used to create new data sets.

B. The _NULL_ data set allows you to execute a DATA step without creating an output data set.

C. The _NULL_ data set holds default values for variables.

D. The _NULL_ data set only captures errors during execution.

9. How would you calculate the total number of days in a billing cycle using SAS date values?

A. TotDays=lastday-firstday;

B. TotDays=lastday-firstday+1;

C. TotDays=lastday/firstday;

D. You cannot use date values in calculations.

10. How can you extract the sex identifier from the variable IDCode, where the fourth character indicates sex?

A. Sex=scan(idcode,4);

B. Sex=scan(idcode,4,1);

C. Sex=substr(idcode,4);

D. Sex=substr(idcode,4,1);

Answers

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

Explanations

1. How do you create an index on a SAS dataset?

A. By using the CREATE INDEX statement in a DATA step

B. By using the INDEX statement in a DATA step or CREATE INDEX in PROC SORT

C. By specifying indices in the data definition step

D. By manually organizing data within the dataset

Creating an index on a SAS dataset is an essential task to improve the speed of data retrieval operations. The correct method for accomplishing this is to use the INDEX statement in a DATA step or the CREATE INDEX option in PROC SORT.   Using the INDEX statement within a DATA step allows a programmer to define an index as the data is being created or modified. This means that when new records are added or existing ones are updated, SAS maintains the index automatically, allowing for faster lookups based on the indexed variables. Additionally, the CREATE INDEX option in PROC SORT directly creates an index on the sorted dataset. This method is particularly useful when you want to quickly sort and index a dataset in one step, which can greatly enhance performance during subsequent queries and operations on the indexed variables. In summary, option B correctly identifies the two official methods provided by SAS for creating an index, ensuring that you achieve efficient data access and management in your datasets.

2. Which file is loaded by the links in D:\Output\contents.html according to the provided code?

A. D:\Output\body.html

B. D:\Output\contents.html

C. D:\Output\frame.html

D. There are no links from the file D:\Output\contents.html.

The correct answer indicates that the links found within the file located at D:\Output\contents.html are loading the file at D:\Output\body.html. This means that the HTML content provided in contents.html contains an anchor tag or some form of link element that points to body.html, allowing it to be included or displayed when the link is accessed. In contexts where HTML files are interconnected, a common approach involves pointing to other HTML files to create a structured navigation. Therefore, when a user views contents.html, it's likely meant to direct them to the body of content found within body.html, which usually contains the main information or data intended for the user. Understanding this relationship is fundamental when designing web content because it highlights how files interconnect and what role each file plays within a broader navigation framework. This concept is crucial in creating intuitive user experiences on web platforms.

3. When you specify an engine for a library, what are you specifying?

A. the file format for files that are stored in the library

B. the version of SAS that you are using

C. access to other software vendors' files

D. instructions for creating temporary SAS files

Specifying an engine for a library in SAS determines the method used to access the data files stored in that library, specifically the file format. Each engine corresponds to a particular file type or format and determines how SAS interacts with that data, whether it’s accessing native SAS datasets, reading databases, or working with different data sources such as Excel or text files. The engine enables SAS to understand the structure and encoding of the files, which is critical for correctly reading, writing, and modifying the data. In contrast, the other options provide different contexts unrelated to specifying an engine. The version of SAS being used is more about the environment in which you're working rather than how data is processed within a library. Access to other software vendors' files refers to compatibility and integrations with other data sources or file formats but does not directly define what an engine does. Instructions for creating temporary SAS files relate to the management of temporary datasets rather than the definition and purpose of the engine associated with a library.

4. Which type of delimited file does PROC IMPORT read by default?

A. logical record-length files

B. varying record-length files

C. fixed record-length files

D. illogical record-length files

PROC IMPORT in SAS is designed to read delimited files where the length of each record can vary. This characteristic is particularly useful when dealing with data in formats such as CSV (Comma-Separated Values) or TSV (Tab-Separated Values), where records may not conform to a fixed length because the number of fields can change from one record to another depending on the data being imported.   When PROC IMPORT encounters a varying record-length file, it dynamically adjusts to capture the elements in each row, making it an effective tool for reading diverse datasets with potentially inconsistent field counts. This ability to handle different lengths ensures that important data is not lost due to a rigid structure, allowing for more flexible data manipulation and analysis. Files with logical, fixed, or illogical record lengths do not align with the default capabilities of PROC IMPORT, as they impose specific constraints that can limit the function's adaptability to varied data attributes. Thus, the correct answer reflects the nature of the delimited files that PROC IMPORT is primarily designed to work with.

5. In a SAS DATA step, what would be the result of executing code using the _NULL_ data set?

A. A new dataset will always be created.

B. Not creating any output data set.

C. The program will terminate with an error.

D. It will only store the last variable in memory.

When using the _NULL_ data set in a SAS DATA step, the primary purpose is to allow for processing without creating an output dataset. This means that any data manipulation or calculations performed during that DATA step do not result in a new data set being created in the WORK library or any other specified location. Instead, the code can be used for purposes such as generating reports, writing data to external files, or performing calculations that do not require output storage. The _NULL_ data set serves as a tool for executing code without needing to produce a traditional data output. As such, any variable assignments, or calculations performed will be executed in memory but not saved as a permanent or temporary dataset. Other options do not reflect the purpose of using _NULL_. The idea that a new dataset will always be created contradicts the function of _NULL_. Termination of the program with an error is unlikely unless there are other syntax or logical issues present in the code. Lastly, the notion that it will only store the last variable in memory does not accurately describe the behavior of the _NULL_ data set, as it can process and evaluate multiple variables, though it doesn't create any output dataset to store them permanently.

6. In PROC SQL, what is the effect of using the DISTINCT keyword?

A. It modifies the data structure

B. It removes duplicate rows from the output

C. It adds new rows to the dataset

D. It counts the number of unique values

Using the DISTINCT keyword in PROC SQL is specifically designed to remove duplicate rows from the output of a query. When applied, it ensures that each row in the result set is unique, meaning that if there are multiple rows in the data that are identical across all selected columns, only one instance of such rows will be present in the final output. For example, if a dataset contains several identical entries like (1, 'John'), (1, 'John'), and (2, 'Jane'), using DISTINCT in a SELECT statement will yield one (1, 'John') and one (2, 'Jane'), effectively condensing the data to unique rows only. This functionality makes it a powerful tool in data analysis and reporting, where redundancy often skews results and insights. Ultimately, using DISTINCT provides clarity and accuracy in datasets where duplicate records could mislead interpretations. The other options do not accurately represent what DISTINCT does within PROC SQL, as it does not modify the underlying data structure, add new rows, or count unique values directly.

7. What does the DATA step do after successfully executing the program?

A. It creates a new dataset with no errors.

B. It compiles the data but does not execute.

C. It detects and corrects variable length issues.

D. It produces logs of all observations.

The DATA step is a fundamental building block in SAS programming that is primarily responsible for data manipulation and dataset creation. When a DATA step executes successfully, it means that SAS has processed the instructions correctly and has managed to create a new dataset as specified in the program. This dataset will typically include any transformations, computations, or assignments defined within the DATA step. Choosing this option highlights the end goal of the DATA step: to generate a specific dataset from the source data, which may involve filtering observations, creating new variables, or applying conditionals. If there are no errors during the execution, the dataset is formed successfully and is stored in the designated library or location for further analysis or processing. This understanding reinforces the idea that the functionality of the DATA step is crucial in defining how raw data is converted into usable formats for reporting, analysis, or further processing within SAS applications.

8. What is the significance of the _NULL_ data set in SAS?

A. The _NULL_ data set is used to create new data sets.

B. The _NULL_ data set allows you to execute a DATA step without creating an output data set.

C. The _NULL_ data set holds default values for variables.

D. The _NULL_ data set only captures errors during execution.

The _NULL_ data set in SAS is significant because it allows you to execute a DATA step without creating an actual output data set. When using the _NULL_ data set, you can perform data manipulation and calculations, run conditional logic, create macro variables, and generate output to the SAS log or external files without needing a physical data set to be created in the SAS environment. This is particularly useful for tasks like generating reports, writing to external files, or simply executing code that doesn't require an output dataset but still involves data processing. The other options mention the creation of new datasets, default variable values, and error capture, which do not accurately represent the primary function of the _NULL_ data set. It is specifically designed for situations where no data set output is necessary, maintaining the focus on executing code efficiently without generating additional data artifacts.

9. How would you calculate the total number of days in a billing cycle using SAS date values?

A. TotDays=lastday-firstday;

B. TotDays=lastday-firstday+1;

C. TotDays=lastday/firstday;

D. You cannot use date values in calculations.

Calculating the total number of days in a billing cycle using SAS date values requires an understanding of how SAS handles date arithmetic. SAS date values represent the number of days from a fixed date (January 1, 1960) and can be manipulated directly through basic arithmetic operations. The correct approach involves using the difference between two date values. When calculating the number of days in a billing cycle, if you subtract the start date from the end date, you'll receive the number of days between these two dates. However, this calculation does not include the first day of the billing cycle. To include that day, you need to add one to the result. Therefore, the total number of days in the billing cycle can be found using: Total Days = Last Day - First Day + 1. This ensures that both the first day and the last day are counted in the total, providing an accurate representation of the billing cycle's length. Thus, calculating it this way confirms that the total number of days encompasses the entire range from the starting date to the ending date, which is why this method is the correct choice.

10. How can you extract the sex identifier from the variable IDCode, where the fourth character indicates sex?

A. Sex=scan(idcode,4);

B. Sex=scan(idcode,4,1);

C. Sex=substr(idcode,4);

D. Sex=substr(idcode,4,1);

The correct choice effectively extracts only the specific character that indicates sex from the IDCode variable, which is positioned at the fourth character. The function used is `substr`, which is designed to return a substring from a given string.   In this instance, the `substr(idcode, 4, 1)` function call specifies two important parameters: the starting position of the substring (which is 4, referring to the fourth character in the string) and the length of the substring (which is 1, meaning only one character is being extracted). This ensures that only the sex identifier, located at the fourth position in the IDCode, is returned and stored in the variable named Sex. The other choices do not correctly achieve the goal of isolating the sex identifier for several reasons. For instance, using `scan` may not appropriately extract individual characters based on their position within a string in this context, while `substr(idcode,4)` lacks the length specification required to limit the output to a single character. Thus, choice D is the most precise and appropriate method for retrieving the desired information from the IDCode variable.

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://sas-programming.examzify.com

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