SAS Base Programming Certification Practice Exam (Sample)

Study Guide

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. What is the key difference between INFILE and FILE statements in SAS?

- **A. INFILE reads data into SAS, while FILE outputs data from SAS**
- **B. FILE reads data into SAS, while INFILE outputs data from SAS**
- **C. Both statements are used exclusively for input data**
- **D. Both statements are used exclusively for output data**

2. What does the general form of the INPUT statement include?

- **A. Variable names and their formats**
- **B. Control characters and variable lengths**
- **C. Pointer control instructions and data types**
- **D. All of the above**

3. What does the OPTIONS FIRSTOBS = 1 OBS = MAX; statement accomplish during data entry?

- **A. It reads all observations from a specified starting point**
- **B. It only reads the first observation of a dataset**
- **C. It reads observations up to a maximum limit only**
- **D. It identifies the first and last observations in a dataset**

4. What does the BY statement do in a SORT procedure?

- **A. Sorts the data randomly**
- **B. Identifies the subgroup for arrangement**
- **C. Creates a new variable in the dataset**
- **D. Imports external data files into SAS**

5. What is the purpose of the INTCK function?

- **A. To calculate the total time within a date range**
- **B. To find the unit of time between two dates**
- **C. To identify specific days in a range**
- **D. To convert dates into SAS date format**

6. Which of the following best describes formatted input?

- **A. Data placed in fixed columns**
- **B. Using SAS formats (informats) to parse data**
- **C. Data values separated by tabs**
- **D. Reading data based on user-defined structures**

7. When creating a SAS dataset, what is the purpose of the LENGTH statement?

- **A. To specify the maximum number of observations for the dataset.**
- **B. To define the data type and length of variables before reading data.**
- **C. To allocate storage for the dataset in the SAS library.**
- **D. To indicate which variables should be included in the output.**

8. Which attribute controls the format of a variable during a PROC step?

- **A. Permanently assigned attributes**
- **B. Temp attributes only applicable to the DATA step**
- **C. Attributes assigned only during PROC steps**
- **D. Attributes assigned in the data set descriptor portion**

9. What does the PROC FREQ statement allow you to do in SAS?

- **A. Generate frequency distributions for specific variables**
- **B. Perform regression analysis on data**
- **C. Create summary statistics for numeric variables**
- **D. Visualize data through charts**

10. What is the default behavior when using the FLOWOVER option in an INPUT statement?

- **A. It prevents any line feeds in data**
- **B. It reads the next record into input buffer**
- **C. It stops on missing variable values**
- **D. It produces an error for incomplete records**

Answers

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

Explanations

1. What is the key difference between INFILE and FILE statements in SAS?

A. INFILE reads data into SAS, while FILE outputs data from SAS

B. FILE reads data into SAS, while INFILE outputs data from SAS

C. Both statements are used exclusively for input data

D. Both statements are used exclusively for output data

The key difference between the INFILE and FILE statements in SAS lies in their primary functions regarding data handling. The INFILE statement is specifically designed to read data into SAS from external files. It is used to specify the location of the input data file and allows for various options to control how the data is read, including handling delimiters, specifying data types, and managing data formats. In contrast, the FILE statement is used for outputting data from SAS to an external file. It defines the destination and format for the output data created by DATA steps or procedures. With the FILE statement, you can specify options for formatting the output, such as specifying whether to write to a text file, a CSV file, or a different format. This fundamental distinction highlights that the INFILE statement focuses on the input process, facilitating the import of data into the SAS environment, whereas the FILE statement is concerned with the output, managing how SAS data is written to external files.

2. What does the general form of the INPUT statement include?

A. Variable names and their formats

B. Control characters and variable lengths

C. Pointer control instructions and data types

D. All of the above

The general form of the INPUT statement encompasses various components that enable the effective reading of data into SAS datasets. It can include variable names alongside their formats, which define how data values should be treated and displayed. For example, formats can signify whether a value is to be treated as a date, currency, or other specific type. Additionally, the INPUT statement can incorporate control characters and variable lengths. Control characters allow for precise manipulation of how input data is processed, such as skipping certain characters or lines. Specifying variable lengths ensures that SAS correctly allocates space for each variable, which is vital when different variables may have varying lengths of data. Pointer control instructions provide further guidance within the INPUT statement about where to read data from in the input file. These instructions are essential for navigating through the data in a flexible way, especially when dealing with formatted input. Lastly, different data types are essential to the INPUT statement as they determine the nature of the data being read (e.g., numeric vs. character). This ensures the data is appropriately interpreted and assigned to the right variables in the dataset. Thus, encompassing variable names, formats, control characters, variable lengths, pointer controls, and data types forms a comprehensive structure of the INPUT statement, which enables robust and effective

3. What does the OPTIONS FIRSTOBS = 1 OBS = MAX; statement accomplish during data entry?

A. It reads all observations from a specified starting point

B. It only reads the first observation of a dataset

C. It reads observations up to a maximum limit only

D. It identifies the first and last observations in a dataset

The OPTIONS FIRSTOBS = 1 OBS = MAX; statement sets the configuration for data reading in SAS. By specifying FIRSTOBS = 1, it indicates that the data entry process should start at the very first observation of the dataset. The OBS = MAX setting indicates that the reading process should continue until the maximum number of observations in the dataset is reached. This configuration is particularly useful for managing how data is read into the SAS environment; it allows users to control which observations are processed. Therefore, the statement ensures that all observations are read from the dataset starting at the first observation up to the maximum available observations. This means that by using these options together, the entire dataset is targeted for reading without any exclusions at the beginning or end within specified limits. The understanding of this statement is essential for effective data management in SAS programming, particularly when working with large datasets where only a subset might be required for analysis or to apply specific conditions.

4. What does the BY statement do in a SORT procedure?

A. Sorts the data randomly

B. Identifies the subgroup for arrangement

C. Creates a new variable in the dataset

D. Imports external data files into SAS

The BY statement in a SORT procedure is used to identify the subgroup for arrangement, meaning it specifies one or more variables by which the dataset will be sorted. When you include a BY statement, the sorting process organizes data based on the values of the specified variables in a hierarchical manner. For instance, if you sort by "age" and then by "name," the data will first be arranged by age, and within each age group, it will be further sorted by name. This functionality is essential when dealing with grouped data, as it ensures that the sort order reflects the intended organization according to specific variables of interest. By utilizing the BY statement effectively, you can facilitate more meaningful analysis, reporting, and presentation of the data. The other options refer to actions that are not applicable to the SORT procedure in SAS. Random sorting, variable creation, and importing external data files are outside the scope of what the BY statement is designed to accomplish within the context of sorting operations.

5. What is the purpose of the INTCK function?

A. To calculate the total time within a date range

B. To find the unit of time between two dates

C. To identify specific days in a range

D. To convert dates into SAS date format

The INTCK function in SAS is specifically designed to compute the number of intervals, or units of time, between two dates or datetime values based on a specified time unit. This makes it an invaluable tool for temporal analysis, as it allows users to measure the difference in time across various units such as days, months, years, etc. When using INTCK, you can specify the unit of measurement you are interested in (e.g., 'day', 'month', 'year'), and the function will return the count of those specified units between two given dates. For example, if you want to understand how many years are between two specific date values, INTCK enables you to obtain that precise count, which is essential for reporting and further analyses. The other provided options involve functionality that does not align with what INTCK offers. For instance, calculating total time within a date range is not within the purpose of this function, nor does INTCK identify specific days within a range or convert dates into SAS date format. Each of those tasks requires different functions and approaches within SAS.

6. Which of the following best describes formatted input?

A. Data placed in fixed columns

B. Using SAS formats (informats) to parse data

C. Data values separated by tabs

D. Reading data based on user-defined structures

Formatted input in SAS refers to the use of SAS formats, often called informats, to read and interpret raw data correctly during data input. This process allows SAS to transform data from its raw form into a format that can be analyzed. For instance, if you have a date in a character format (like '2023-10-01'), a corresponding informat can be applied so that SAS understands it as a date value, allowing for appropriate date calculations and manipulations. The other options might refer to different methods of handling data input, but they do not accurately capture the essence of formatted input. For example, data placed in fixed columns pertains more to traditional data input techniques where each variable has a predetermined position. Data values separated by tabs relates more to delimited input methods whereby fields are delineated by tab characters. Reading data based on user-defined structures involves creating custom structures but not specifically involving formatted input as defined through SAS informats. Thus, the utilization of formats/informats effectively characterizes formatted input in SAS programming.

7. When creating a SAS dataset, what is the purpose of the LENGTH statement?

A. To specify the maximum number of observations for the dataset.

B. To define the data type and length of variables before reading data.

C. To allocate storage for the dataset in the SAS library.

D. To indicate which variables should be included in the output.

The LENGTH statement in SAS serves a crucial role in defining the properties of variables within a dataset. By specifying the data type and length of variables, this statement allows you to control how much memory is allocated for each variable and ensures that data is stored efficiently. For instance, if you're working with numerical data, you can define a numeric variable's length specifically to hold only the necessary number of digits. Similarly, for character variables, you can set an appropriate length to accommodate the expected maximum string size. This can enhance performance during processing and help manage the overall size of the dataset effectively. In terms of the other choices, the LENGTH statement does not set a limit on the number of observations in your dataset, allocate storage for the dataset itself, or specify which variables should be included in the output. Instead, it focuses specifically on the configuration of the variables' attributes as they are initially defined in the dataset.

8. Which attribute controls the format of a variable during a PROC step?

A. Permanently assigned attributes

B. Temp attributes only applicable to the DATA step

C. Attributes assigned only during PROC steps

D. Attributes assigned in the data set descriptor portion

The correct choice relates to the specific scenario in which various attributes can be applied to variables during a PROC step. In SAS, while several attributes can influence how data is represented, attributes that specifically control the format of a variable within a PROC step are ones assigned during that particular PROC execution. When working with PROC steps, formatting can directly impact how output is displayed, such as controlling the decimal places for numerical values or defining the appearance of date variables. This formatting can be done on-the-fly, meaning it is applied specifically for that PROC step and will not change the underlying dataset or persist outside that particular execution of the PROC. In contrast, other answer choices do not properly capture this nuance. Attributes that are permanently assigned will affect how variables are handled across different data steps and PROC steps. Temporarily assigned attributes in a DATA step don't carry over into PROC steps unless explicitly defined there. Lastly, attributes assigned in the data set descriptor portion pertain to the overall structure of the dataset rather than focusing specifically on the nuances of output formatting during individual PROC operations.

9. What does the PROC FREQ statement allow you to do in SAS?

A. Generate frequency distributions for specific variables

B. Perform regression analysis on data

C. Create summary statistics for numeric variables

D. Visualize data through charts

PROC FREQ is a powerful procedure in SAS specifically designed for generating frequency distributions of categorical variables. This procedure allows users to analyze the distribution of values within a variable, showing how often each value occurs. The output of PROC FREQ includes frequency counts and percentages, which are valuable for understanding the data's characteristics and making informed decisions based on that data. Using PROC FREQ, you can not only view the frequency of individual categories but also analyze the relationships between multiple categorical variables through cross-tabulations. This is particularly useful in exploratory data analysis, as it allows researchers to discern patterns and trends within their data. The other options refer to functionalities that are handled by different procedures in SAS. For example, regression analysis is conducted using PROC REG or PROC GLM, while summary statistics for numeric variables are generated using PROC MEANS or PROC SUMMARY. Data visualization is typically accomplished through procedures like PROC SGPLOT or PROC CHART. Thus, the primary focus of PROC FREQ remains on frequency distribution, making it essential for categorical data analysis.

10. What is the default behavior when using the FLOWOVER option in an INPUT statement?

A. It prevents any line feeds in data

B. It reads the next record into input buffer

C. It stops on missing variable values

D. It produces an error for incomplete records

When the FLOWOVER option is used in an INPUT statement, it allows the program to continue reading the next line of data if a record is incomplete or has missing values for certain variables. This behavior is particularly useful in situations where data records may not always align perfectly with the variables defined in the INPUT statement. With FLOWOVER, if the input statement encounters a missing value, it does not stop processing the current record; instead, it seamlessly flows over to the next record to fill in the missing information, thereby maintaining data continuity. This is important for data processing and analysis because handling incomplete data can often be a challenge. By utilizing the FLOWOVER option, SAS minimizes the likelihood of skipping records unexpectedly, thus enhancing data loading efficiency and integrity. In contrast, the other responses indicate behaviors that would either restrict data processing or stop functionality, which do not align with the purpose of the FLOWOVER option.

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://sasbaseprogramming.examzify.com

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