

SAS BASE 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.

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

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1. When attributes are permanently assigned in a DATA step, what is retained?
 - A. Only the variable names are retained
 - B. Only the output formats are retained
 - C. The attributes stored in the data set descriptor
 - D. Only numeric values are retained
2. How is a 'black space' created under the column headers in a SAS report?
 - A. Using the HEADLINE statement
 - B. Using the HEADSKIP statement
 - C. Using the RBREAK statement
 - D. Using the BREAK statement
3. Which DO loop will NOT execute for the values 2, 4, 6, 8?
 - A. DO i = 2,4,6,8;
 - B. DO i=2*1,2*2,2*3,2*4;
 - C. DO i = 1 to 8 by 2;
 - D. All of the above will work as specified
4. How many tables are generated when the following SAS program is submitted: PROC FREQ DATA=work.schools; RUN;?
 - A. 0 — no tables requested
 - B. a single table showing frequencies for all variables
 - C. 2 tables, one table for each character variable
 - D. 4 tables, one table for each variable
5. In the context of the SYMBOL statement, what does the 'i=' option specify?
 - A. Interpolation method
 - B. Symbol shape
 - C. Line width
 - D. Color of symbols

6. Which function returns the smallest integer that is greater than or equal to its argument?
- A. ROUND
 - B. INT
 - C. CEIL
 - D. FLOOR
7. What will the IF statement evaluate if the condition is true and multiple actions are required?
- A. Execute one statement
 - B. Execute all within the DO block
 - C. Skip all statements
 - D. End the execution
8. Which option should be used in the DATA step to create a data set called Last_Sale that contains the last observation in Sales?
- A. END
 - B. NOBS
 - C. LASTOBS
 - D. _N_
9. What happens to the observations in the mydata.pay data set after the sorting operation?
- A. Mydata.Pay is re-created in descending sorted order by idNumber
 - B. Mydata.Pay is stored in original order, and a new data set Work.Pay is created
 - C. Mydata.Pay is stored in original order, and a new data set Work.Data1 is created
 - D. Nothing is created because there is no OUT= option specified.
10. Which statement is true regarding the OUTPUT statement in SAS?
- A. It is used to create a new dataset.
 - B. It creates a temporary dataset that disappears at the end of the DATA step.
 - C. It writes the current observation to a dataset.
 - D. It can only be used with the DATA step.

Answers

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

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Explanations

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1. When attributes are permanently assigned in a DATA step, what is retained?

- A. Only the variable names are retained
- B. Only the output formats are retained
- C. The attributes stored in the data set descriptor**
- D. Only numeric values are retained

When attributes are permanently assigned in a DATA step, the correct answer pertains to the attributes that are stored in the data set descriptor. The data set descriptor contains essential information about the data set, including the variable names, data types, lengths, labels, and any formats or informats that have been applied to the variables. By assigning attributes in a DATA step and using statements like LENGTH, LABEL, and FORMAT, you are establishing certain characteristics for your variables that will persist in the resultant data set. This means that when you save the data set, those attributes are stored and will be available whenever you access the data set in the future. In contrast, the other options focus on more specific aspects that do not encompass the full range of attributes stored in the data set descriptor. For instance, variable names and numeric values alone do not convey the complete set of attributes, nor do they fully represent the comprehensive nature of the descriptor, making the correct answer particularly relevant and encompassing in this context.

2. How is a 'black space' created under the column headers in a SAS report?

- A. Using the HEADLINE statement
- B. Using the HEADSKIP statement**
- C. Using the RBREAK statement
- D. Using the BREAK statement

The creation of a 'black space' under the column headers in a SAS report is achieved with the HEADSKIP statement. This statement is specifically designed to insert blank lines in the output, which can enhance the readability of the report by providing visual separation between the headers and the data that follows. The HEADLINE statement, while useful for drawing horizontal lines above the column headers, does not create a space beneath them. The RBREAK statement is utilized for summation or special display at the end of groups, often to separate sections of data but does not specifically address creating space under headers. The BREAK statement is similar in purpose to the RBREAK statement, but it functions mainly for in-group breaks and does not have capability to add space beneath column headers. Therefore, the function of the HEADSKIP statement is unique and essential for achieving the desired spacing effect in SAS output reports.

3. Which DO loop will NOT execute for the values 2, 4, 6, 8?

- A. DO i = 2,4,6,8;
- B. DO i=2*1,2*2,2*3,2*4;
- C. DO i = 1 to 8 by 2;**
- D. All of the above will work as specified

The correct choice is based on understanding how DO loops work in SAS programming. The option that specifies a loop using the syntax "DO i = 1 to 8 by 2;" generates a sequence of numbers starting at 1 and increments by 2 until it exceeds 8. This results in the values 1, 3, 5, and 7 being produced. Therefore, this loop will not produce the values 2, 4, 6, and 8, making it the correct answer. The other options are designed to yield explicitly the values specified (2, 4, 6, and 8). The first option directly creates a list of these values within the DO loop statement. The second option defines multiples of 2 that directly correspond to 2, 4, 6, and 8. Since both of these loops will indeed execute and provide the values specified, they do not match the condition for exclusion. Thus, only the third option fails to execute for the values 2, 4, 6, and 8 as requested in the question.

4. How many tables are generated when the following SAS program is submitted: PROC FREQ DATA=work.schools; RUN;?

- A. 0 – no tables requested
- B. a single table showing frequencies for all variables
- C. 2 tables, one table for each character variable
- D. 4 tables, one table for each variable**

The correct answer indicates that four tables are generated, each corresponding to a separate variable in the dataset. When the PROC FREQ procedure is executed without specifying any additional parameters, SAS automatically calculates frequency distributions for all the variables present in the dataset. In a typical scenario, PROC FREQ creates a frequency table for each categorical variable within the dataset being analyzed. If there are character variables and numeric variables, PROC FREQ will generate one frequency table for each of the categorical variables it encounters. Assuming there are four categorical variables in the "work.schools" dataset, the procedure would create one table per variable, resulting in a total of four tables. This process allows users to easily examine how many times each level of each categorical variable appears in the dataset, thus providing necessary insights into the distribution of those variables. The other potential answers do not align with how PROC FREQ operates in SAS. For example, if no tables are created, it would imply that there are no variables to analyze, which is not the case here if we assume the dataset contains relevant variables. Similarly, the answer suggesting a single table or a specific number of single-variant tables fails to account for the nature of frequency tables generated by PROC FREQ across multiple categorical variables.

5. In the context of the SYMBOL statement, what does the 'i=' option specify?

- A. Interpolation method**
- B. Symbol shape
- C. Line width
- D. Color of symbols

The 'i=' option within the SYMBOL statement in SAS is used to specify the interpolation method for the symbols in a plot. This means it controls how SAS draws the line segments between the data points. Different interpolation methods can affect the visual representation of the data, especially for time series or line plots where the connection between points is significant. For example, linear interpolation creates straight lines between points, while other methods may provide smoother curves or different visual effects. In contexts where data points might be sporadic or irregular, choosing the correct interpolation can enhance the clarity and usefulness of a graphical output. This attention to detail in graphical representation is crucial when presenting data to ensure that the information is conveyed accurately and effectively. Understanding other options: Symbol shape, line width, and color of symbols pertain to different characteristics in the SYMBOL statement. While they define how the symbols look in terms of their shape, size, and color, the 'i=' option is specifically focused on the method of connecting those symbols rather than their artistic attributes.

6. Which function returns the smallest integer that is greater than or equal to its argument?

- A. ROUND
- B. INT
- C. CEIL**
- D. FLOOR

The function that returns the smallest integer greater than or equal to its argument is the CEIL function. This function, short for "ceiling," effectively rounds a number up to the nearest whole number, regardless of its fractional component. For example, using the CEIL function on the value 3.2 would yield 4, and applying it to -2.8 would return -2, which is the smallest integer that is still greater than -2.8. This characteristic makes the CEIL function particularly useful in various mathematical operations where rounding up is necessary. In contrast, the ROUND function rounds to the nearest integer based on standard mathematical rules, which can round down if the fractional part is less than 0.5. The INT function truncates any decimal part, returning only the integer portion of a number, essentially rounding down to the nearest whole number. Lastly, the FLOOR function, oppositely, returns the largest integer that is less than or equal to its argument, rounding down rather than up. Therefore, CEIL is specifically designed to meet the requirement of returning the smallest integer that is greater than or equal to the given argument, distinguishing it clearly from the other functions.

7. What will the IF statement evaluate if the condition is true and multiple actions are required?

- A. Execute one statement
- B. Execute all within the DO block**
- C. Skip all statements
- D. End the execution

When the condition in an IF statement evaluates to true and multiple actions need to be executed, using a DO block is essential. A DO block allows for grouping of statements together, ensuring that all the statements contained within the block are executed sequentially when the condition is satisfied. This construct is particularly useful because it enhances program clarity, making it easier to understand which actions correspond to a specific condition. If the DO block is not used, only the first statement following the IF condition would be executed, which could lead to incomplete processing of the intended actions. Thus, when the condition is true and multiple actions are required, the DO block ensures that all specified statements run properly. In the context of the other options, executing only one statement would not address the requirement for multiple actions, skipping all statements does not happen when the condition is true, and ending execution entirely is not applicable when actions are to be performed. Therefore, the most appropriate and effective way to handle multiple actions associated with a true condition in an IF statement is through the use of a DO block.

8. Which option should be used in the DATA step to create a data set called Last_Sale that contains the last observation in Sales?

- A. END
- B. NOBS
- C. LASTOBS
- D. _N_

To create a dataset called Last_Sale that contains the last observation in Sales, using the END option is appropriate because it allows you to determine when the last iteration of the DATA step is occurring. When utilizing the END option, you can set a flag that indicates when you have reached the last observation of the input dataset. This is crucial in situations where you want to capture specific records at the end of a DATA step processing. By defining a condition in conjunction with this flag, you can selectively output the last observation to your new dataset. In this context, the LASTOBS option does not exist in SAS, and NOBS is not designed for capturing the last record but rather for counting the number of observations in a dataset. Lastly, the variable _N_ counts the number of iterations through the DATA step but does not inherently indicate whether you are at the last observation. Utilizing the END option enables an effective and straightforward approach to achieving the goal of creating a dataset with just the last observation from the Sales dataset.

9. What happens to the observations in the mydata.pay data set after the sorting operation?

- A. Mydata.Pay is re-created in descending sorted order by idNumber
- B. Mydata.Pay is stored in original order, and a new data set Work.Pay is created
- C. Mydata.Pay is stored in original order, and a new data set Work.Data1 is created
- D. Nothing is created because there is no OUT= option specified.

When a SAS data set is sorted using a procedure like PROC SORT without the OUT= option, the data set itself is modified in place. In the case of the sorting operation performed on mydata.pay, the records are rearranged in ascending or descending order, depending on the specified sort order. If the sorting is specifically done by the variable idNumber and in descending order, mydata.pay is indeed updated to reflect this new order. Thus, the observations will be re-created such that they are arranged in descending order based on the values of idNumber. This operation effectively overwrites the original data set with the sorted data, resulting in a clear change in the storage of the observations. Other responses may suggest that the original order is maintained or that a new dataset is created, but these do not apply here since that behavior is contingent upon the use of the OUT= option, which is not mentioned in this context. If the OUT= option were used, then a new data set would indeed be generated, but that is not the case with the given scenario.

10. Which statement is true regarding the OUTPUT statement in SAS?

- A. It is used to create a new dataset.
- B. It creates a temporary dataset that disappears at the end of the DATA step.
- C. It writes the current observation to a dataset.**
- D. It can only be used with the DATA step.

The OUTPUT statement in SAS serves the specific purpose of writing the current observation to a dataset. When you use the OUTPUT statement within a DATA step, it directs SAS to save the current observations being processed into an output dataset. This is particularly useful when you want to control which observations are written to the output dataset and when you want to create a subset or manipulate how data is recorded. While the OUTPUT statement can be used to create a new dataset, it's not the statement on its own that creates the dataset; rather, it specifies which observations are treated as outputs to an existing dataset during the DATA step processing. The use of the OUTPUT statement can still occur in the context of modifying existing datasets and thus isn't solely for creating new datasets. The characteristics of the OUTPUT statement also imply that it can be used multiple times within a DATA step to write different observations to the same dataset or control the flow of data output in complex data manipulations. This functionality allows for flexible data management, making it an essential tool in SAS programming. In contrast, other statements may mistakenly seem correct, but they do not capture the primary function of the OUTPUT statement specifically as it pertains to managing observations within a DATA step context. The temporary nature of datasets or suggestions that the OUTPUT statement

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!

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