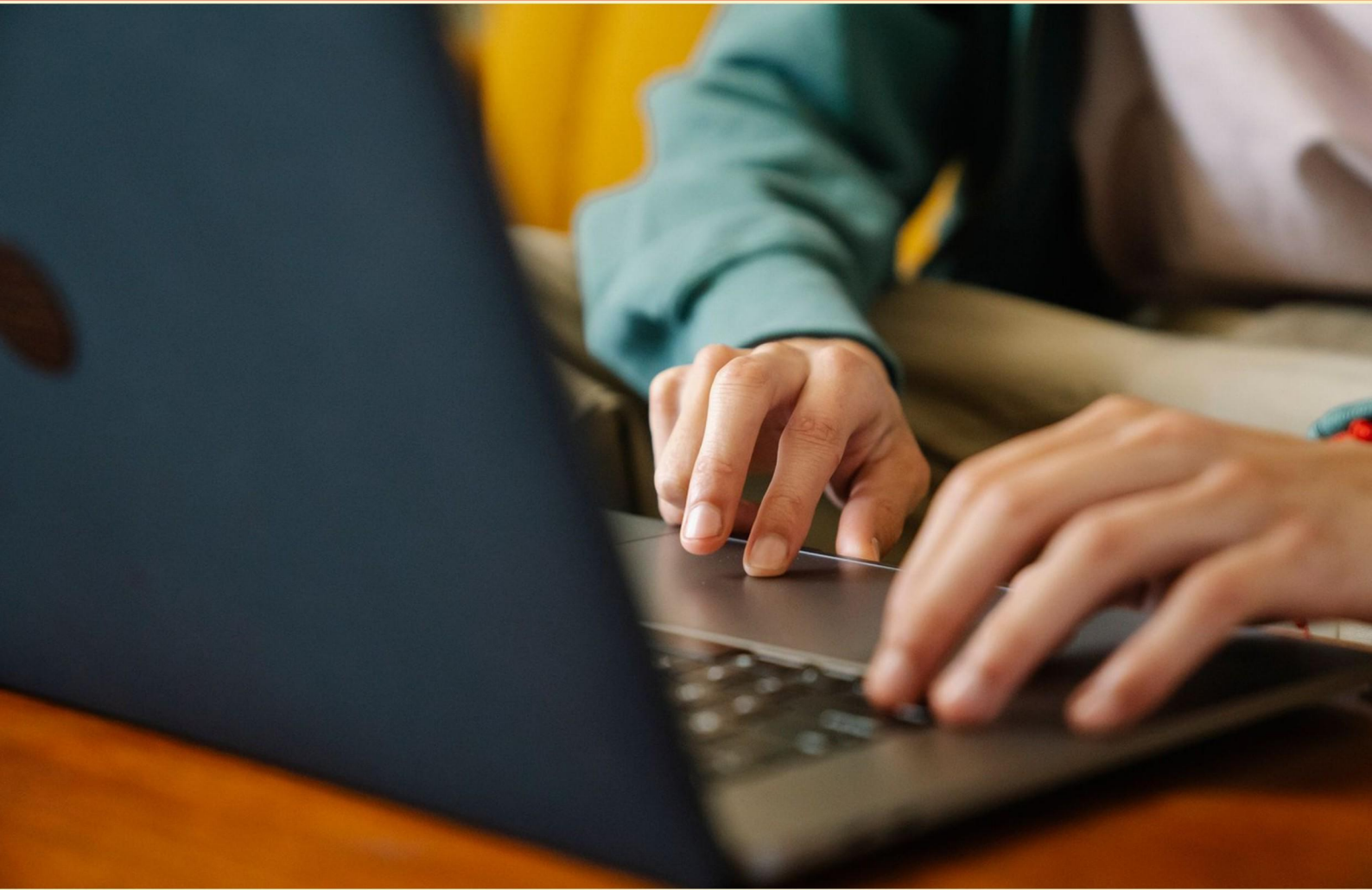


CODE.ORG COMPUTER SCIENCE DISCOVERIES PRACTICE TEST (SAMPLE) STUDY GUIDE



SAMPLE STUDY GUIDE WITH LIMITED QUESTIONS

**VISIT US ONLINE FOR
THE FULL VERSION STUDY GUIDE**

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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. What are boolean values in programming?**
 - A. True and false values used in conditions
 - B. Numbers used for counting
 - C. Strings that describe data
 - D. Lists that store multiple items
- 2. Which term describes the common programming structure that implements conditional statements?**
 - A. Expression
 - B. Boolean
 - C. If-Statement
 - D. Abstraction
- 3. Which term refers to the language used to describe how HTML elements should be styled?**
 - A. HTML
 - B. CSS
 - C. JavaScript
 - D. XML
- 4. Which term means any valid unit of code that resolves to a value?**
 - A. Boolean
 - B. Expression
 - C. Frame
 - D. Abstraction
- 5. What is the purpose of the <p> tag in HTML?**
 - A. To embed a video.
 - B. To define a paragraph of text.
 - C. To define a list.
 - D. To create a hyperlink.

6. What does HTTPS do?

- A. Adds animations to the page
- B. Encrypts data transmitted between the browser and server to protect privacy and security
- C. Enables local storage
- D. Compresses images

7. Which statement about Scratch lists is true?

- A. A list stores multiple values
- B. A list stores a single value
- C. A list cannot be used with loops
- D. A list is used for sending messages

8. Which term refers to a data structure used to represent a list in JavaScript?

- A. For Loop
- B. Parameter
- C. Array
- D. Bit

9. What does a 'forever' loop do in Scratch?

- A. Repeats the contained blocks indefinitely
- B. Repeats a fixed number of times
- C. Runs once
- D. Pauses between iterations

10. What is the term for the part of a CSS rule-set that defines which HTML elements the style should be applied to?

- A. CSS Class
- B. CSS Selector
- C. Property
- D. Sprite

Answers

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

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Explanations

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1. What are boolean values in programming?

A. True and false values used in conditions

- B. Numbers used for counting
- C. Strings that describe data
- D. Lists that store multiple items

Boolean values are true or false, and they're what let programs make decisions. When you test a condition in an if statement or a loop, the result is either true (the condition is met) or false (it isn't). Those true/false results come from comparisons like $5 > 3$ or $2 == 2$, and from combining statements with and, or, and not. This true/false information tells the program which path to take or whether to keep repeating a block. Booleans are a distinct type in many languages, separate from numbers or text, though some languages also treat other values as true or false in a broader sense (truthy or falsy).

2. Which term describes the common programming structure that implements conditional statements?

- A. Expression
- B. Boolean
- C. If-Statement
- D. Abstraction

Conditional decisions in a program are handled by checking a condition and taking different actions depending on whether that condition is true. The common structure for this is the if-statement, which evaluates a condition and runs a block of code when the condition is true. It can also include an else part to run something when the condition is false, and sometimes else-if for additional checks. For example: `if (temperature > 100) { alert('Too hot'); }` An expression is any combination that yields a value, such as a comparison like $x > 5$. The result of that comparison is a Boolean—true or false—which can serve as the condition inside the if-statement. Abstraction is about simplifying complexity, not about the specific control flow used to make decisions. So the term that names this common programming structure for implementing conditional logic is the if-statement.

3. Which term refers to the language used to describe how HTML elements should be styled?

- A. HTML
- B. CSS
- C. JavaScript
- D. XML

Styling language is CSS. HTML defines the page structure and content, while CSS describes how that content should look—such as colors, fonts, spacing, and layout. CSS uses selectors to target elements and declarations to set presentation properties, allowing you to change appearance without altering the underlying content. The other options don't fit because HTML is for structure, JavaScript handles behavior and interactivity, and XML is another markup language not specifically used for styling web pages.

4. Which term means any valid unit of code that resolves to a value?

- A. Boolean
- B. Expression**
- C. Frame
- D. Abstraction

*An expression is any valid unit of code that evaluates to a value. This includes simple values like 7 or true, variables like x, or more complex combinations such as $x + 3$ or $\max(a, b) * 2$. The key idea is that expressions are things the computer can compute to produce a value, which is different from actions that don't yield a value. Boolean refers to a data type for true/false, which is a kind of value an expression can produce but isn't itself the unit of code that resolves to a value. Frame isn't a standard term for a unit of code, and Abstraction is about hiding details to manage complexity, not a code unit that yields a value. So the best fit for "any valid unit of code that resolves to a value" is the expression.*

5. What is the purpose of the <p> tag in HTML?

- A. To embed a video.
- B. To define a paragraph of text.**
- C. To define a list.
- D. To create a hyperlink.

Using a <p> tag creates a paragraph of text in HTML. It marks a block of content as a paragraph, which gives it the typical paragraph spacing in browsers and makes it easy to style with CSS. You wrap sentences inside <p>...</p> to separate different blocks of text. This tag is specifically for text paragraphs, not for embedding video, creating lists, or making hyperlinks (those use <video>, /, and <a> respectively). For example: <p>This is a paragraph of text.</p>

6. What does HTTPS do?

- A. Adds animations to the page
- B. Encrypts data transmitted between the browser and server to protect privacy and security**
- C. Enables local storage
- D. Compresses images

HTTPS creates a secure, encrypted connection between your browser and the website. This means any data you send or receive—like passwords, personal info, or payment details—is kept private from anyone who might be listening on the network. It also helps verify you're communicating with the real site, not an impostor, by using a certificate. So the main idea is privacy and security for data in transit. It doesn't affect animations, local storage, or image compression.

7. Which statement about Scratch lists is true?

- A. A list stores multiple values**
- B. A list stores a single value
- C. A list cannot be used with loops
- D. A list is used for sending messages

Lists in Scratch hold multiple items. This is why the statement that a list stores multiple values is true—you can add many items to a list, and each item has a position you can reference. You can access items by their index, check how many items are in the list, and loop through the list to process every item. This helps you manage groups of data instead of just one value. The other ideas don't fit: a list isn't limited to a single value, and it can be used with loops to go through all its items. Also, lists aren't primarily used for sending messages—the broadcast system handles messages.

8. Which term refers to a data structure used to represent a list in JavaScript?

- A. For Loop
- B. Parameter
- C. Array**
- D. Bit

An array is a data structure used to hold a list of values in JavaScript. It stores items in a specific order, and you can access each item by its position, called an index, starting at 0 (for example, `array[0]` is the first item). This makes arrays ideal for representing lists, like items to buy or a sequence of numbers. You create one with square brackets, such as `let items = ['apple', 'banana', 'orange'];` and you can grow or shrink it with operations like `push` to add or `pop` to remove, while the `length` property tells you how many items are in the list. Arrays are versatile and can hold different types of values, even mixed types, which is handy when you're storing a collection of related data points. The other terms refer to different concepts: a for loop is a way to repeat code, not a container for values; a parameter is a variable that a function uses to receive input; a bit is just a single binary digit (0 or 1).

9. What does a 'forever' loop do in Scratch?

- A. Repeats the contained blocks indefinitely**
- B. Repeats a fixed number of times
- C. Runs once
- D. Pauses between iterations

A forever loop repeats the blocks inside endlessly. Scratch runs the inside from top to bottom, then immediately starts over and does it again, creating an ongoing cycle as long as the program is running. You can add a wait inside to slow things down, but by default there's no built-in end to the repetition, which is why it keeps looping. This is different from repeating a fixed number of times, which stops after that many iterations, or running once, which doesn't loop at all. It also doesn't automatically pause between iterations unless you insert a wait block.

10. What is the term for the part of a CSS rule-set that defines which HTML elements the style should be applied to?

- A. CSS Class
- B. CSS Selector**
- C. Property
- D. Sprite

Selectors identify the HTML elements that should receive the styling. In a CSS rule-set, the selector appears before the curly braces and tells the browser which elements to target. For example, `p { color: red; }` targets all paragraph elements. You can combine or refine targets with different selector types, such as `.note` for elements with a specific class or `#header` for a specific id, and even more complex patterns like a selector that targets a specific element inside another. Inside the braces are properties like `color` or `font-size` that define the actual styles applied to those targeted elements. The other terms are related but refer to different parts: a class is a type of selector, a property is a style attribute within the rule-set, and a sprite is an image used for graphics. The part that names the elements to style is the selector.

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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://codeorgcompscidiscoveries.examzify.com>

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

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