



AP Computer Science Principles

Unit 3 Practice Exam: Intro to App Design

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Practice Assessment · 30 Questions ·

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Name: _____ Period: _____ Date: _____

DIRECTIONS: This practice exam has 30 multiple-choice questions covering Unit 3: Intro to App Design. Several questions show **App Lab** (JavaScript) code. Select the *single* best answer unless a question says "Select two."

1. A weather app displays the current temperature after the user enters a ZIP code. In this scenario, the ZIP code is:

- (A) A comment written by the programmer
- (B) An input to the program
- (C) An output sent to the screen
- (D) A syntax error in the code

2. Which of the following is an example of program *output*?

- (A) A value the user types into a text box
- (B) A message displayed on the screen
- (C) A click on a button by the user
- (D) A line of source code the programmer typed

3. A calculator app has buttons labeled 0–9, +, −, and =. These buttons are part of the app's:

- (A) Metadata stored alongside each calculation
- (B) Bandwidth allocation for the network
- (C) User interface
- (D) Underlying communication protocol

4. **App Lab.** The user types Maria into "nameBox" and clicks "greetBtn".

```
onEvent("greetBtn", "click", function() {  
    setText("output", getText("nameBox"));  
});
```

What appears in "output"?

- (A) Maria
- (B) nameBox
- (C) getText("nameBox")
- (D) Nothing

5. App Lab. A user chooses Hard from a dropdown menu.

```
onEvent("levelDropdown", "change", function() {  
    setText("choice", getText("levelDropdown"));  
});
```

What input does the program read when the selection changes?

- (A) The id "levelDropdown"
- (B) The word "choice"
- (C) The selected value, Hard, from the dropdown
- (D) Nothing — dropdowns cannot be read

6. App Lab. What is the output when "catBtn" is clicked?

```
onEvent("catBtn", "click", function() {  
    setImageURL("pic", "cat.png");  
});
```

- (A) The text "cat.png" appears as a label
- (B) The image element "pic" displays cat.png
- (C) A new screen named cat is created
- (D) A sound file is played

7. A *program* is best described as:

- (A) A comment explaining the code to other people
- (B) A single variable stored in memory
- (C) A physical component inside the computer
- (D) A collection of statements that performs a task when run

8. A teacher asks students to look at “lines 12 through 25” of a program. Those lines are best described as:

- (A) A code segment
- (B) Metadata about the program file
- (C) A user interface element for the app
- (D) A complete standalone program

9. App Lab. When does the label "msg" get set to "Hello!"?

```
onEvent("clickMe", "click", function() {  
  setText("msg", "Hello!");  
});
```

- (A) Immediately when the app starts
- (B) Once for every line in the program
- (C) Each time the user clicks the "clickMe" button
- (D) Never — the code has no effect

10. App Lab. The code below runs when the app starts.

```
setText("label", "Ready");  
onEvent("startBtn", "click", function() {  
  setText("label", "Go!");  
});
```

Before the user clicks anything, what does "label" show?

- (A) Go!
- (B) Nothing (it is blank)
- (C) Ready and Go! at once
- (D) Ready

11. App Lab. What happens when the user clicks "nextBtn"?

```
onEvent("nextBtn", "click", function() {  
  setScreen("screen2");  
});
```

- (A) The element "screen2" is deleted
- (B) The app changes to display "screen2"
- (C) A new button named "screen2" is created
- (D) The text of "nextBtn" changes

12. App Lab. The user clicks *only* btnA.

```
onEvent("btnA", "click", function() {  
    setText("out", "A pressed");  
});  
onEvent("btnB", "click", function() {  
    setText("out", "B pressed");  
});
```

What is displayed in "out"?

- (A) Both messages at the same time
- (B) Nothing
- (C) Only A pressed
- (D) Only B pressed

13. App Lab. The user clicks day, then clicks night.

```
onEvent("day", "click", function() {  
    setText("label", "Morning");  
});  
onEvent("night", "click", function() {  
    setText("label", "Evening");  
});
```

What does "label" show *after* both clicks?

- (A) Evening
- (B) Morning
- (C) MorningEvening
- (D) Nothing

14. App Lab. Which line correctly runs code when the button "submit" is clicked?

- (A) onEvent("submit", "click", function() { ... });
- (B) setText("submit", "click");
- (C) onEvent(submit, click);
- (D) click("submit") { ... }

15. App Lab. Which part of this code represents *input* from the user?

```
onEvent("addBtn", "click", function() {  
    setText("display", getText("itemBox"));  
});
```

- (A) setText("display", ...)
- (B) getText("itemBox") — reading what the user typed
- (C) onEvent("addBtn", "click", ...)
- (D) The id "addBtn"

16. App Lab. What is the output when "bell" is clicked?

```
onEvent("bell", "click", function() {  
    playSound("ding.mp3");  
});
```

- (A) The text "ding.mp3" is displayed on screen
- (B) A new button appears
- (C) The sound ding.mp3 plays
- (D) The app switches screens

17. App Lab. The code below runs at start-up. What does "box" show?

```
setText("box", "First");  
setText("box", "Second");  
setText("box", "Third");
```

- (A) First
- (B) Second
- (C) All three at once
- (D) Third

18. A team builds a prototype, tests it with users, gathers feedback, and revises. This cycle is called:

- (A) An iterative development process
- (B) Data compression applied to the project
- (C) Sequential execution of the program code
- (D) A one-time build with no revisions

19. An incremental development approach means:

- (A) Writing all the code at once and testing only at the end
- (B) Only fixing syntax errors and ignoring logic errors
- (C) Building the program one piece at a time, testing each piece
- (D) Deleting old code entirely before writing any new code

20. Before designing an app, a programmer surveys 50 potential users about the features they want. This is part of:

- (A) Debugging the program for logic errors
- (B) Compiling the program into machine code
- (C) Compressing the app to reduce its file size
- (D) Investigating and reflecting on user needs

21. Which of the following is a benefit of prototyping?

- (A) It eliminates the need for any user feedback
- (B) It allows testing ideas before a full implementation
- (C) It replaces the need for a written specification
- (D) It guarantees zero bugs in the final product

22. A programmer adds a comment above a function explaining what it does. This comment:

- (A) Helps others understand the code and does not affect execution
- (B) Is required or the function will not run at all
- (C) Changes the output that the function will produce
- (D) Makes the function execute noticeably more quickly

23. Which *two* statements about program documentation are true?

(Select two answers.)

- (A) Documentation helps programmers develop and maintain correct programs
- (B) Documentation is only useful to the original author of the code
- (C) Removing all comments makes a program run noticeably faster
- (D) Documentation is especially important when multiple people collaborate

24. A program computes a student's average but divides by 3 instead of 4 (the actual number of tests). This is a:

- (A) Logic error — the program runs but gives wrong results
- (B) Overflow error — a number exceeds its storage limit
- (C) Syntax error — the code violates language grammar
- (D) Run-time error — the program crashes while executing

25. App Lab. When "btn" is clicked, where does "clicked" appear?

```
onEvent("btn", "click", function() {  
  console.log("clicked");  
});
```

- (A) On the app screen where the user can see it
- (B) In a pop-up shown to the user
- (C) Nowhere — `console.log` is not real code
- (D) In the console (debug area), not on the app screen

26. App Lab. This should display what the user typed in "nameBox", but it does not work.

```
onEvent("saveBtn", "click", function() {  
    setText("greeting", setText("nameBox"));  
});
```

What is the best fix?

- (A) Use `getText("nameBox")` to *read* the input instead of `setText`
- (B) Rename the button "saveBtn"
- (C) Remove the semicolon at the end
- (D) Add a second screen to the app

27. App Lab. Clicking the on-screen button does nothing. In Design mode the button's id is "start".

```
onEvent("startBtn", "click", function() {  
    setText("status", "Go");  
});
```

What is the problem?

- (A) `setText` is spelled incorrectly
- (B) "click" should be "press"
- (C) The function must be given a name
- (D) The id "startBtn" does not match the button's id "start"

28. App Lab. The button works, but the message never appears. The label's id in Design mode is "message".

```
onEvent("showBtn", "click", function() {  
    setText("message", "Done");  
});
```

What is the error?

- (A) `setText` should be `getText`
- (B) `onEvent` needs a number instead of "click"
- (C) "message" is misspelled and does not match the label id "message"
- (D) The text "Done" is too long to display

29. In pair programming, two programmers work at one computer. At any given time, one writes code while the other:

- (A) Works on a completely different and separate project
- (B) Writes documentation for another team's codebase
- (C) Turns off the monitor to avoid distractions
- (D) Reviews the code, plans ahead, and catches errors

30. Including team members with different backgrounds and experiences is valuable because it:

- (A) Makes the program compile and run noticeably faster
- (B) Helps identify blind spots and reduces bias in the design
- (C) Removes the need for testing the program at all
- (D) Guarantees the program will be completely free of bugs