

Chapter: 03

Notes on Programming Fundamentals

20 SHORT QUESTIONS ALONG WITH ANSWERS

1. What is HTML?

Answer: HTML (HyperText Markup Language) is the standard language used to create and structure web pages. It uses tags to define elements like headings, paragraphs, tables, and forms which are then rendered by web browsers.

2. How do you create an ordered list in HTML?

Answer: An ordered list is created using the `<ol>` tag, with each list item inside `<li>` tags. For example:

```
<ol>
```

```
<li>First item</li>
```

```
<li>Second item</li>
```

```
</ol>
```

3. What is the purpose of CSS animations?

Answer: CSS animations are used to create visual effects such as blinking, spinning, fading, or moving elements smoothly across a webpage. They enhance the visual appeal and user experience.

4. Name two types of lists used in HTML.

Answer:

- **Unordered List (`<ul>`)** with bullet points.
- **Ordered List (`<ol>`)** with numbered points.

5. What does the `push()` function do in JavaScript arrays?

Answer: The `push()` method adds a new element at the end of the array. It modifies the original array and returns the new length of the array.

6. How can you find if an element exists in a JavaScript array?

Answer: Using the `indexOf()` method, which returns the index of the element if found or `-1` if not. For example:

```
let index = array.indexOf(element);
```

```
if (index !== -1) { /* element exists */ }
```

7. Write a simple HTML form to take cake order with options for size and delivery.

Answer:

```
<form>
```

```
<label>Delivery Method:</label>
```

```
<input type="radio" name="delivery" value="Home Delivery">Home Delivery
```

```
<input type="radio" name="delivery" value="Self Pickup">Self Pickup
```

```
<br>
```

```
<label>Cake Size:</label>
```

```
<select>
```

```
<option>Small</option>
```

```
<option>Medium</option>
```

```
<option>Large</option>
```

```
</select>
```

```
<br>
```

```
<button type="submit">Place Order</button>
```

```
</form>
```

8. What is a function in programming?

Answer: A function is a block of reusable code designed to perform a particular task. It simplifies code by avoiding repetition and helps in organizing programs effectively.

9. How do CSS @keyframes work?

Answer: @keyframes define the style changes during an animation. They specify the start and end states (or intermediate states), controlling how elements animate over time.

10. Explain the difference between arrays and lists in JavaScript.

Answer: In JavaScript, arrays are used to hold ordered collections of data and are often fixed in size, but they can be expanded or contracted dynamically. Lists, as an abstract concept, are similar but are more flexible in other languages. In JS, typically, arrays serve both purposes.

11. How do you create a blinking text using CSS?

Answer: Using @keyframes, you define a blinking effect that changes the color or opacity periodically. Example:

```
@keyframes blink { 0%, 50%, 100% { opacity: 1; } 25%, 75% { opacity: 0; } }
```

```
.blink { animation: blink 1s infinite; }
```

12. What is the purpose of breakpoints in debugging?

Answer: Breakpoints temporarily halt program execution at specific lines, allowing programmers to inspect variable values, step through code, and identify issues effectively.

13. How can JavaScript dynamically update parts of a webpage without reloading?

Answer: By manipulating the Document Object Model (DOM) using JavaScript, such as changing `textContent` or dynamically adding/removing elements, webpages can reflect new data instantly.

14. How do you search for an element in an array and count iterations taken?

Answer: Use a loop to go through each element; increment a counter each time. If the element is found, record the number of iterations. If the loop ends without finding it, indicate it's absent.

15. What are event listeners in JavaScript?

Answer: Event listeners are functions that wait for specific events (like clicks, mouseover, or input) and execute code in response, enabling interactive behavior on web pages.

16. Why are unit tests important in programming?

Answer: Unit tests verify that individual functions or components work correctly, helping to catch errors early, improve code reliability, and facilitate easier maintenance.

17. Describe a real-world example where front-end development alone might suffice without back-end support.

Answer: A simple static webpage displaying information or images without user input, like a digital photo portfolio, can be handled entirely by front-end code without server-side processing.

18. What is the purpose of the `indexOf()` method in arrays?

Answer: It searches for a specified element and returns its position in the array. If the element is absent, it returns `-1`.

19. How do HTML forms improve user experience?

Answer: Forms allow users to input data directly, such as orders or feedback, which can then be processed immediately or stored for further action, making interactions seamless.

20. What is the importance of CSS in modern website design?

Answer: CSS enhances the visual appearance of websites by controlling layout, colors, fonts, and animations, making the site attractive and user-friendly.

THE END