

# Progression Screening Test

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## 1. Are you currently employed?

I am currently employed in a temp job with TEKsystems that lasts Oct 31 through Nov 6. I am not currently employed in a permanent job.

## 2. What is the purpose of a Content Security Policy?

A Content Security Policy lists which types of content are allowed to be loaded from which sites. Anything else is blocked.

The purpose of a Content Security Policy is to protect against Cross-Site Scripting (XSS) attacks, which try to load malicious scripts from unknown places.

## 3. Define Cross-Site Scripting (XSS).

Cross-Site Scripting is a user injecting `<script>...</script>` into a webpage. Anything that allows user input (search bar, comment section, etc.) is somewhere that a script could be pasted in.

## 4. Explain the concept of User-Centered Design.

User-Centered Design just means designing with the user in mind. How will they experience the webpage? How can I make it accessible, intuitive, and easy-to-use for them?

## 5. What is callback hell, and how does it occur in programming?

Callback hell is when JavaScript callbacks are nested. It occurs when you don't use promises instead.

## 6. Define polymorphism in programming.

Polymorphism is a concept in object-oriented programming where an object (usually a class) can be extended and used for a number of different, more specific subclasses.

## 7. Describe the purpose and features of Strict Mode.

Strict Mode is a JavaScript mode that throws errors for mistakes or bad syntax. The purpose is to help you write higher quality, more secure code.

## 8. What strategies can be used to reduce page load time?

First, figure out *what* is making the load time slow. Temporarily remove certain elements and try loading the page without them to figure out if — for example — it's the audio file or the JavaScript that's the issue. Then you can address that issue specifically.

There are pages worth of strategies, but a few preliminary ones are:

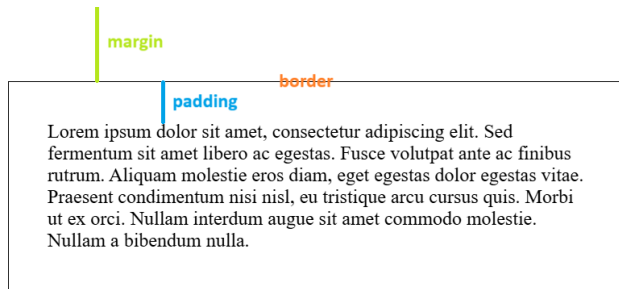
- For files, see if they can be a different file type or lower resolution.
- For JavaScript, look if the code is waiting on something that could be made asynchronous.
- Minify your files — make them smaller by removing things like whitespace.
- Caching.
- Get rid of plugins where you can.

From a design perspective, could this slow page be split into two smaller pages?

## 9. What are the components of the CSS Box Model?

The CSS Box Model is the layers which encapsulate any HTML element. From outside to inside:

- **margin:** space outside the border
- **border:** border around the box
- **padding:** space between the border and the element's contents
- **content:** the contents of a box; usually text, sometimes an image, sometimes empty. Content is usually provided in HTML rather than in CSS, although sometimes (such as `::before`) it can be done in CSS.



```
HTML
1 <div class="sample">Lorem ipsum de
  volutpat ante ac finibus rutrum. A
  nisl, eu tristique arcu cursus qui
  nulla.</div>

CSS
1 .sample {
2   margin: 4em;
3   border: 1px solid black;
4   padding: 2em;
5 }
```

## 10. What is the difference between Centralized and Distributed Version Control Systems?

Centralized is an older model, while Distributed is a later adaption. Git is the most popular example of a Distributed System.

In Distributed, everyone has a copy of the repository. Each user can commit changes to their local version, and can also push or pull changes to the master version.

## 11. What are the functions of Git Push and Git Pull?

Git Pull is a command used to get an up-to-date copy of the master repository.

Git Push is used to take changes made in your local repository and make them part of the master repository.

## 12. How do Git Merge and Git Rebase differ?

Git Merge adds the changes to main to the local version. It creates a history with two branches.

Git Rebase makes the current main version the base of the local version, to which changes are applied to. It creates a linear history, which some people prefer.

## 13. What role do attributes play in HTML?

Attributes are basically the parameters of HTML. They appear as `<tag attribute="value">` and are used to change or specify something about that element.

## 14. How can you display a table on an HTML webpage?

This is a very rudimentary table:

```
<table>
  <thead>
    <tr>
      <th>col1</th>
      <th>col1</th>
      <th>col3</th>
    </tr>
```

```

</thead>
<tbody>
  <tr>
    <td>row1 cell1</td>
    <td>row1 cell2</td>
    <td>row1 cell3</td>
  </tr>
  <tr>
    <td>row1 cell1</td>
    <td>row1 cell2</td>
    <td>row1 cell3</td>
  </tr>
  <tr>
    <td>row1 cell1</td>
    <td>row1 cell2</td>
    <td>row1 cell3</td>
  </tr>
</tbody>
</table>

```

15. **How do you create nested web pages in HTML?**

<iframe> can be used for this.

16. **What is the method for segmenting a section of text in HTML?**

In short, you wrap it in a tag. There are several different tag options, depending on what you mean by “segmenting”.

- most commonly used is <div>
- the phrase “segmenting a section” might imply that you’re looking for <section>, which is a less common option
- wrap a paragraph in <p>
- wrap words within a paragraph in <span>

17. **What are the different types of CSS Selectors?**

The basic types are:

- .class
- tag
- #id

There are also

- attribute selectors (apply to elements with *x* as an attribute)
- *n*th child selectors, like :first-child, :nth-child(3), and :nth-child(even)

Realistically, when working with those kinds, I always reference [https://www.w3schools.com/cssref/css\\_selectors.php](https://www.w3schools.com/cssref/css_selectors.php) and [https://developer.mozilla.org/en-US/docs/Web/CSS/CSS\\_selectors](https://developer.mozilla.org/en-US/docs/Web/CSS/CSS_selectors) to review all the options and double-check my syntax.

18. Which CSS property is used for underlining, strikethrough, and overlining text?

- `text-decoration: underline;`
- `text-decoration: overline;`
- `text-decoration: line-through;`

19. Explain the concepts of Imports and Exports in JavaScript.

If your JavaScript is long and you want to split it into multiple files, you can use `import` and `export` to access functions/classes/variables between files.

Let's say I have a function called `my_func_a` which is located in `my_func_a.js`, along with its helper functions. I call `my_func_a` from another file, but its helper functions are only used within the file `my_func_a.js`. I will preface `my_func_a` with `export` to make it (but not the helpers) exportable.

```
export function my_func_a(params) { ... }
```

In other files where I call `my_func_a` — `main.js` for example — I import it.

```
import my_func_a from './my_func_a.js';
```

In order to use `import` and `export`, you have to mark your code as `type="module"`.

20. In React, what does “State” mean, and how is it implemented?

State is a hook in React. It's an object that manages data that changes.

Here is an example of a boolean state that tracks whether something is currently loading.

```
import React, { useState } from 'react'

function App() {
  const [loading, setLoading] = useState(false);

  const onSubmitPrompt = (values) => {
    setLoading(true);
    ...
    // after doing everything else,
    // the last step is to mark it as no longer loading
    setLoading(false)
  };

  ...
}
```

21. What hourly rate would you suggest if you were to take on this role?

\$50 – \$55