

Chapter 03 – Computer Science (Class 10)

Created by NBF StudyHub (YouTube)

Response Questions (SRQs)

1. Give an example where back-end development may not be required and all of the functionalities are handled by front-end.

Answer:

A basic quiz application using only HTML, CSS, and JavaScript is an example where no back-end is needed. The questions, options, and answers can be stored directly in the front-end code. JavaScript handles the logic and shows the result instantly without connecting to any server or database.

2. What are the 'td', 'th' and 'tr' tags used for? Explain with the help of an example.

Answer:

These tags are used to create tables in HTML:

- <tr> stands for **table row**
- <th> stands for **table header**
- <td> stands for **table data**

Name	Age
Ali	22

```
<table>
  <tr>
    <th>Name</th>
    <th>Age</th>
  </tr>
  <tr>
    <td>Ali</td>
    <td>22</td>
  </tr>
</table>
```

3. Find error(s) in the following codes.

```
1 <!DOCTYPE html>
2 <html>
3 <head>
4   <title>Bug in Array</title>
5 </head>
6 <body>
7   <h1>Find the Bug</h1>
8   <script>
9     const myArray = ("apple", 3.14,
10      true, "orange");
11     document.write(`<p>My Array: $
12       {myArray[1]}</p>`);
13   </script>
14 </body>
15 </html>
```

(a)

```
1 <!DOCTYPE html>
2 <html>
3 <head>
4   <title>Bug in the Array</title>
5 </head>
6 <body>
7   <h1>Hunt the Bug</h1>
8   <script>
9     const myArray = "apple", 3.14,
10      true, "orange";
11     document.write(`<p>My Array: $
12       {myArray}</p>`);
13   </script>
14 </body>
15 </html>
```

(b)

Corrected (a):

```
1 const myArray = ("apple", 3.14, true, "orange");
2 document.write(`<p>My Array: ${myArray[1]}</p>`);
```

Error in (a):

- The array is written using **round brackets ()** instead of **square brackets []**.
- This creates a problem because it's not a valid JavaScript array.

Corrected (b):

```
1 const myArray = ["apple", 3.14, true, "orange"];
2 document.write(`<p>My Array: ${myArray[1]}</p>`);
```

Error in (b):

- This line tries to assign multiple values without using an array, which is a syntax error.
- The values must be inside **square brackets []** to form an array.

Q4. How is unit testing used when adding a function to an already written program?**Answer:**

Unit testing helps check if a new function works properly without breaking the old code. When you add a function, you write small tests (called unit tests) to check each part of the new function. If the test passes, it means your function works as expected. This saves time and helps find bugs early.

Question 5. Enlist 3 key differences between array and list.

Feature	List (JavaScript Array)	Array
Data Types	Can store mixed types (numbers, strings, objects)	Stores only one data type (typed: int, float, etc.)
Speed	Slower for large datasets or numerical computation	Faster for numerical operations (especially in WebGL, etc.)
Memory Usage	Higher memory usage due to dynamic typing	Optimized, lower memory footprint
Usage	General-purpose list operations	Best for numerical and performance-critical operations
Module Needed	Built-in (Array)	Built-in (TypedArray, no extra modules)

Question 6. How are breakpoints useful in debugging? Elaborate with help of an example.

Answer:

Breakpoints pause the code at a specific line while running, so the programmer can check values of variables and flow. This helps to find where the error is happening.

Example:

Suppose your loop is not giving correct output. You can set a breakpoint inside the loop and run the program step-by-step. This way, you can see if the loop is working properly and what value each variable has at each step.

The End

✓ **Subscribe for Learning**