

What is responsive web design and why it is important?

Responsive web design is a design and technical approach to create websites to provide an optimal viewing and interaction experience for users. It allows the web content to automatically adapt to various screen sizes and design types, which ensures consistency for the user no matter where or what device they view the content from. This can be used through the use of flexible grids, media queries and flexible images. The goal of responsible web design is for the ability to provide a user-friendly experience, which enhances accessibility to be able to reach broader audiences especially with the increasing number of mobile devices.

Write how to implement responsive web design with CSS and implement code; hint: CSS @media Rule

The approach with responsive web design suggests that the development should respond to the user's behaviour and screen size, platform and orientation. The core principle is to create a web experience adaptable to many different devices, which can be implemented through the @media rule in CSS.

In CSS we can start by making a basic web design using normal CSS properties, then to adjust this design based on screen size, we can use the @media rule. With this rule we can specify a maximum width for the screen size, then if the viewport is equal to or less than the size, the CSS inside the rule will take effect.

E.g.

```
body {
  margin: 0;
  padding: 20px;
  font-family: Arial, sans-serif;
}

.container {
  width: 100%;
  max-width: 600px;
  margin: auto;
}

@media screen and (max-width: 600px) {
  body {
    padding: 10px;
  }

  .container {
    width: 100%;
  }
}
```

Write a JavaScript file with at least 5 string methods. Hint: Use console.log function for output. (No need to include HTML and CSS)

```
let string = "Hello, world!";
console.log(string.length); // length method
console.log(string.toUpperCase()); // toUpperCase method
console.log(string.toLowerCase()); // toLowerCase method
console.log(string.indexOf('world')); // indexOf method
console.log(string.replace('world', 'universe')); // replace method
```

Write a JavaScript file with at least 2 array variables (one string array and one number array) with total 5 array methods (you can use either string array or number array, or you can use both e.g., 2 methods using string array then 3 methods using number array). Hint: Use console.log function for output. (No need to include HTML and CSS)

```
let numArray = [1, 2, 3, 4, 5];
let strArray = ["Apple", "Banana", "Orange", "Lemon", "Blueberry"];

console.log(numArray.length); // length method
console.log(numArray.pop()); // pop method
console.log(strArray.push('Lime')); // push method
console.log(strArray.indexOf('Orange')); // indexOf method
console.log(numArray.reverse()); // reverse method
```

Write a JavaScript file with at least 5 Date methods. Hint: Use console.log function for output. (No need to include HTML and CSS)

```
// Create a new Date object
let date = new Date();

// Log the current date and time
console.log("Current date and time: " + date.toString());

// Log the current year using getFullYear
console.log("Current year: " + date.getFullYear());

// Log the current month using getMonth
console.log("Current month: " + (date.getMonth() + 1));

// Log the current date of the month using getDate
console.log("Current day of the month: " + date.getDate());

// Log the current day of the week using getDay
console.log("Current day of the week: " + date.getDay());

// Set the date to the 1st of the month using setDate
date.setDate(1);
console.log("Updated date: " + date.toString());
```

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Reflections/Screenshots:

Overall, in this task I learnt multiple features of Javascript, what responsive web design is and how it is important to use @media for responsive web design. I constructed pieces of code to reflect what I have learnt, such as String methods, Array Variables and Date Objects. Overall, this has been a valuable learning experience in expanding my knowledge in Javascript.

```
C:\Users\Jake Young\OneDrive - Deakin University\Documents\Study documentation\2023 - Trimester 2\Introduction to Responsive Web Apps\1.2P>node ArrayVariables.js
5
5
6
2
[ 4, 3, 2, 1 ]

C:\Users\Jake Young\OneDrive - Deakin University\Documents\Study documentation\2023 - Trimester 2\Introduction to Responsive Web Apps\1.2P>node StringMethods.js
13
HELLO, WORLD!
hello, world!
7
Hello, universe!

C:\Users\Jake Young\OneDrive - Deakin University\Documents\Study documentation\2023 - Trimester 2\Introduction to Responsive Web Apps\1.2P>node DateObject.js
Current date and time: Wed Jul 19 2023 11:48:45 GMT+0930 (Australian Central Standard Time)
Current year: 2023
Current month: 7
Current day of the month: 19
Current day of the week: 3
Updated date: Sat Jul 01 2023 11:48:45 GMT+0930 (Australian Central Standard Time)

C:\Users\Jake Young\OneDrive - Deakin University\Documents\Study documentation\2023 - Trimester 2\Introduction to Responsive Web Apps\1.2P>
```