

Module (JAVASCRIPT BASIC & DOM) – 4

(1) What is JavaScript ?

JavaScript is the Programming Language for the Web.
JavaScript can update and change both HTML and CSS.
JavaScript can calculate, manipulate and validate data.

(2) What is the use of the isNaN function?

The **isNaN()** function is used to check whether a given value is an illegal number or not. It returns true if the value is a NaN else returns false. It is different from the Number.isNaN() Method.

(3) What is negative Infinity?

The negative infinity in JavaScript is a constant value which is used to represent a value which is the lowest available. This means that no other number is less than this value. It can be generated using a self-made function or by an arithmetic operation.

Note: JavaScript shows the NEGATIVE_INFINITY value as -Infinity.

Negative infinity is different from mathematical infinity in the following ways:

1. Negative infinity results in 0 when divided by any other number.
2. When divided by itself or positive infinity, negative infinity return NaN
3. Negative infinity, when divided by any positive number (apart from positive infinity) is negative infinity.
4. Negative infinity, divided by any negative number (apart from negative infinity) is positive infinity.
5. If we multiply negative infinity with NaN, we will get NaN as a result.
6. The product of NaN and negative infinity is 0.
7. The product of two negative infinities is always a positive infinity.
8. The product of both positive and negative infinity is always negative infinity.

(4) Which company developed JavaScript?

JavaScript was invented by Brendan Eich in 1995.

It was developed for Netscape 2, and became the ECMA-262 standard in 1997.

After Netscape handed JavaScript over to ECMA, the Mozilla foundation continued to develop JavaScript for the Firefox browser. Mozilla's latest version was 1.8.5. (Identical to ES5).

Internet Explorer (IE4) was the first browser to support ECMA-262 Edition 1 (ES1).

(5) What are undeclared and undefined variables?

Undefined variable means a variable has been declared but it does not have a value.

Undeclared variable means that the variable does not exist in the program at all.

(6) Write the code for adding new elements dynamically?

Javascript is a very important language when it comes to learning how the browser works. Often there are times we would like to add dynamic elements/content to our web pages. This post deals with all of that.

Syntax:

```
document.createElement("<tagName>");
```

```
// Where <tagName> can be any HTML
```

```
// tagName like div, ul, button, etc.
```

```
// newDiv element has been created
```

For Eg: `let newDiv = document.createElement("div");`

Once the element has been created, let's move on to the setting of attributes of the newly created element.

(7) What is the difference between ViewState and SessionState?

The basic difference between these two is that the **ViewState is to manage state at the client's end, making state management easy for the end-user while SessionState manages state at the server's end**, making it easy to manage content from this end too.

ViewState: It is maintained at only one level that is page-level.

(8) What is the === operator?

The strict equality operator (===) checks whether its two operands are equal, returning a Boolean result. Unlike the [equality](#) operator, the strict equality operator always considers operands of different types to be different.

(9) How can the style/class of an element be changed?

The class name is used as a selector in HTML which helps to give some value to the element attributes. The `document.getElementById()` method is used to return the element in the document with the "id" attribute and **the "className" attribute can be used to change/append the class of the element.**

(10) How to read and write a file using JavaScript?

Files can be read and written by using java script functions – `fopen()`, `fread()` and `fwrite()`.

The function `fopen()` takes two parameters – 1. Path and 2. Mode (0 for reading and 3 for writing). The `fopen()` function returns -1, if the file is successfully opened.

(11) What are all the looping structures in JavaScript ?

Different Kinds of Loops

JavaScript supports different kinds of loops:

- `for` - loops through a block of code a number of times.
- `for/in` - loops through the properties of an object.
- `for/of` - loops through the values of an iterable object.
- `while` - loops through a block of code while a specified condition is true.
- `do/while` - also loops through a block of code while a specified condition is true.

(12) How can you convert the string of any base to an integer in JavaScript?

In JavaScript **`parseInt()` function (or a method) is used to convert the passed in string parameter or value to an integer value itself.** This function returns an integer of base which is specified in the second argument of `parseInt()` function.

(13) What is the function of the delete operator?

The delete operator **removes a given property from an object.** On successful deletion, it will return true , else false will be returned.

(14) What are the types of pop up boxes?

There are three types of pop-up boxes in JavaScript namely **Alert Box, Confirm Box and Prompt Box.**

(15) What is the use of Void (0)?

JavaScript void 0 means returning undefined (void) as a primitive value. You might come across the term “JavaScript:void(0)” while going through HTML documents. It is used **to prevent any side effects caused while inserting an expression in a web page.**

(16) How can a page be forced to load another page in JavaScript?

Approach: We can **use windows. location property inside the script tag** to forcefully load another page in Javascript. It is a reference to a Location object that represents the current location of the document. We can change the URL of a window by accessing it.

(17) What are the disadvantages of using innerHTML in JavaScript?

Disadvantages of innerHTML

- Event handlers attached to any DOM element are preserved.
- Replacement is done everywhere.
- It is not possible to append innerHTML.
- Breaks the document.
- Used for Cross-site Scripting.

Module (jQuery Basic, Effects & Advanced) – 5

(1) What is jQuery?

jQuery is a lightweight, "write less, do more"JavaScript library.

The purpose of jQuery is to make it much easier to use JavaScript on your website.

jQuery takes a lot of common tasks that require many lines of JavaScript code to accomplish, and wraps them into methods that you can call with a single line of code.

jQuery also simplifies a lot of the complicated things from JavaScript, like AJAX calls and DOM manipulation.

The jQuery library contains the following features:

- HTML/DOM manipulation
- CSS manipulation
- HTML event method
- Effects and animations
- AJAX
- Utilitie

(2) How to Apply CSS Using JQuery, How to Add Class and Remove Class in JQuery , JQuery Animation?

jQuery has several methods for CSS manipulation. We will look at the following methods:

- `addClass()` - Adds one or more classes to the selected elements
- `removeClass()` - Removes one or more classes from the selected elements
- `toggleClass()` - Toggles between adding/removing classes from the selected elements
- `css()` - Sets or returns the style attribute.

(3) How to create a slider with animation?

There are tons of design trends you can use to get visitors to stop and pay attention to the main hero section on your home page. The only problem is that once a trend gets overplayed, it quickly loses that cool factor that made it so special in the beginning.

If you want to make sure your visitors take notice of what you've created as well as the messaging contained within it, you need to give them a reason to. A sliced-and-diced slider animation effect they won't find anywhere else is a sure-fire way to do that.

In this tutorial, you'll learn how to use Slider Revolution's [Website Intro Slider template](#) to easily build a hero slider of your own with an impossible-to-miss Slice effect.

Module (Bootstrap Basic & Advanced) – 6

(1) What are the advantages of Bootstrap?

The Benefits of Using Bootstrap Framework

Easy to prevent repetitions among multiple projects. Responsive design that can be used to adapt screen sizes and choose what shows and what doesn't on any given

device. Maintaining consistency among projects when using multiple developer teams. Quick design of prototypes.

(2) What is a Bootstrap Container, and how does it work?

Containers are **the most basic layout element in Bootstrap and are required when using our default grid system**. Containers are used to contain, pad, and (sometimes) center the content within them. While containers can be nested, most layouts do not require a nested container.

(3) **What are the default Bootstrap text settings?**

Bootstrap 4 Default Settings

Bootstrap 4 uses a default font-size of 16px, and its line-height is 1.5. The default font-family is "Helvetica Neue", Helvetica, Arial, sans-serif. In addition, all <p> elements have margin-top: 0 and margin-bottom: 1rem (16px by default).

(4) What do you know about the Bootstrap Grid System?

Bootstrap's grid system allows up to 12 columns across the page.

Bootstrap's grid system is responsive, and the columns will rearrange depending on the screen size: On a big screen it might look better with the content organized in three columns, but on a small screen it would be better if the content items were stacked on top of each other.

(5) What is the difference between Bootstrap 4 and Bootstrap 5

Grid System

It has 5 levels (xs, sm, md, lg, xl).

It has 6 levels (xs, sm, md, lg, xl, xxl).

Color

It has limited colors.

Extra colors added with the looks, A card improved color palette. There are various shades available to choose from.

Jquery

It has jquery and all related plugins.

Jquery is removed and switched to vanilla JS with some working plugins

Internet Explorer

Bootstrap 4 supports both IE 10 and 11.

Bootstrap 5 doesn't support IE 10 and 11.

Form elements

Radio buttons, checkboxes have different looks in different OS and browsers. The form uses whatever default browsers provide.

The look of form elements will not change, on different OS or browsers. The forms can be customized and form controls can be added, they would not depend on the browser.

Utilities API

We cannot modify utilities in bootstrap 4

Bootstrap 5 gave freedom to modify and also create our own utility

Gutter

We use .glitter with font size in px

We use .g* with font size in rem

Vertical Classes

Columns can be positioned relative

Columns cannot be positioned relative

Bootstrap Icons

Bootstrap 4 doesn't have its own SVG icons, we have to use font-awesome for icons.

Bootstrap 5 have its own SVG icons

Jumbotron

It supports.

It doesn't support the jumbotron.

Card deck

The card deck is used to create an isset of cards with equal width and height.

Card deck class in removed in bootstrap

Navbar

We have inline-block property and we will get white dropdown as default for dropdown-menu-dark class.

Inline-block property is removed and we will get black dropdown as default for dropdown-menu-dark class.

Static Site Generator

Bootstrap 4 uses Jekyll software.

Bootstrap 5 uses Hugo software as it is a fast static site generator.

flexbox grid

This makes it easier to implement vertical designs, and the columns and rows can easily be implemented. the classes justify-center-content can directly be used to align according to the requirement.

an advanced grid system is made available , also columns don't have relative positions.

RTL Support

It does not enable RTL(Right to Left) switching.

It enables RTL(Right to Left) switching.

Offcanvas Component

It does not support Offcanvas Components.

It supports Offcanvas Component(that is it is available now).

(6) What is a Button Group, and what is the class for a basic Button Group?

“Button Groups” in Bootstrap is a class of name “btn-group” which is used to create a series of buttons in groups (without spaces) vertically or horizontally.

This is the basic syntax of the button group class where each button has its own class of “btn”.

(7) How can you use Bootstrap to make thumbnails?

This chapter discusses Bootstrap thumbnails. A lot of sites need a way to lay out images, videos, text, etc, in a grid, and Bootstrap has an easy way to do this with thumbnails. To create thumbnails using Bootstrap –

- Add an <a> tag with the class of .thumbnail around an image.
- This adds four pixels of padding and a gray border.
- On hover, an animated glow outlines the image.

(8) In Bootstrap 4, what is flexbox?

Flexbox. The biggest difference between Bootstrap 3 and Bootstrap 4 is that **Bootstrap 4 now uses flexbox, instead of floats, to handle the layout.** The Flexible Box Layout Module makes it easier to design flexible responsive layout structures without using float or positioning.

(9) How can one create an alert in Bootstrap?

This chapter will discuss alerts and the classes Bootstrap provides for alerts. Alerts provide a way to style messages to the user. They provide contextual feedback messages for typical user actions.

You can add an optional close icon to alert. For inline dismissal use the Alerts jQuery plugin.

You can add a basic alert by creating a wrapper `<div>` and adding a class of `.alert` and one of the four contextual classes (e.g., `.alert-success`, `.alert-info`, `.alert-warning`, `.alert-danger`)

