

Internet Programming

Experiment 1:- Show tools for website implementation

Aim: Show tools for website implementation

Tools: Visual Studio Code, HTML, CSS, JavaScript, Figma, ReactJS, Bootstrap, MongoDB

Visual Studio Code:

A source-code editor called Visual Studio Code works with many different programming languages, such as C, C#, C++, Fortran, Go, Java, JavaScript, Node.js, Python, and Rust. The Electron framework, which is used to create Node.js web apps that leverage the Blink layout engine, serves as its foundation. The editor component (codenamed "Monaco") used in Azure DevOps is also utilized in Visual Studio Code (formerly called Visual Studio Online and Visual Studio Team Services).

The majority of popular programming languages have minimal support out of the box in Visual Studio Code. This fundamental support consists of configurable snippets, code folding, bracket matching, and syntax highlighting. Along with debugging support for Node.js, Visual Studio Code also comes with IntelliSense for JavaScript, Typescript, JSON, CSS, and HTML.



As a result of its numerous FTP extensions, Visual Studio Code can be used as a cost-free substitute for web development. Without having to download any additional software, code may be synced between the editor and the server. The newline character, programming language, and code page in which the active document is saved can all be customized by users of Visual Studio Code. This enables it to be utilized with any programming language, in any location, and on any platform.

HTML:

The preferred markup language for documents intended to be viewed in a web browser is HTML, or HyperText Markup Language. Technologies like Cascading Style Sheets (CSS) and scripting languages like JavaScript can help.

The majority of webpages are written in HTML. Pages are created and functionalized using HTML. Tim Berners-Lee, Robert Cailliau, and others began developing HTML in 1989. When a document is hypertext, it has links that the reader can use to go to different sections within the same document or to another one entirely. HTML5 is the most recent version. A markup language is a language used by computers to communicate and regulate how text is handled and displayed. HTML uses tags and attributes in order to accomplish this.

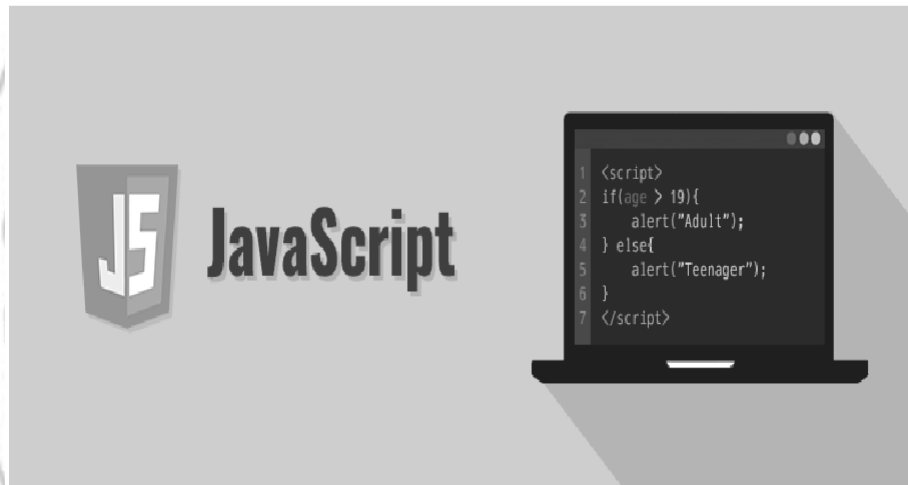
**CSS:**

A style sheet language called Cascading Style Sheets (CSS) is used to describe how a document produced in a markup language like HTML or XML is presented (including XML dialects such as SVG, MathML or XHTML). The World Wide Web's foundational technologies, along with HTML and JavaScript, include CSS.

The purpose of CSS is to make it possible to separate content from presentation, including layout, colors, and fonts. By specifying the pertinent CSS in a separate.css file, which reduces complexity and repetition in the structural content, this separation can improve content accessibility, provide more flexibility and control in the specification of presentation characteristics, enable multiple web pages to share formatting, and enable the.css file to be cached to improve page load speed between the pages that share the file and its formatting.

JavaScript:

JavaScript, often abbreviated as JS, is a programming language that is one of the core technologies of the World Wide Web, alongside HTML and CSS. It is an interpreted, full-fledged programming language that enables dynamic interactivity on websites when applied to an HTML document. It was introduced in the year 1995 for adding programs to the webpages in the Netscape Navigator browser. Since then, it has been adopted by all other graphical web browsers. As of 2022, 98% of websites use JavaScript on the client side for webpage behavior, often incorporating third-party libraries. JavaScript is supportable in several operating systems including Windows, macOS, etc. JavaScript follows the syntax and structure of the C programming language. Thus, it is a structured programming language. With JavaScript, users can build modern web applications to interact directly without reloading the page every time. The traditional website uses JS to provide several forms of interactivity and simplicity.



Figma:

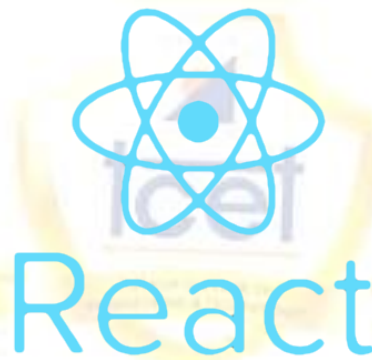
Figma is a collaborative web application for interface design, with additional offline features enabled by desktop applications for macOS and Windows. The feature set of Figma focuses on user interface and user experience design, with an emphasis on real-time collaboration, utilizing a variety of vector graphics editor and prototyping tools.



ReactJS:

React (also known as React.js or ReactJS) is a free and open-source front-end JavaScript library for building user interfaces based on UI components. It is maintained by Meta (formerly Facebook) and a community of individual developers and companies. React can be used as a base in the development of single-page, mobile, or server-rendered applications with frameworks like Next.js

React is a library for building composable user interfaces. It encourages the creation of reusable UI components, which present data that changes over time. Lots of people use React as the V in MVC. React abstracts away the DOM from you, offering a simpler programming model and better performance. React can also render on the server using Node, and it can power native apps using React Native. React implements one-way reactive data flow, which reduces the boilerplate and is easier to reason about than traditional data binding.



MongoDB:

MongoDB is a source-available cross-platform document-oriented database program. Classified as a NoSQL database program, MongoDB uses JSON-like documents with optional schemas. MongoDB is developed by MongoDB Inc. and licensed under the Server Side Public License (SSPL) which is deemed non-free by several distributions. MongoDB is a member of the MACH Alliance.



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Bootstrap:

Bootstrap is an HTML, CSS and JS library that focuses on simplifying the development of informative web pages (as opposed to web applications). The primary purpose of adding it to a web project is to apply Bootstrap's choices of color, size, font and layout to that project. As such, the primary factor is whether the developers in charge find those choices to their liking. Once added to a project, Bootstrap provides basic style definitions for all HTML elements. The result is a uniform appearance for prose, tables and form elements across web browsers. In addition, developers can take advantage of CSS classes defined in Bootstrap to further customize the appearance of their contents. For example, Bootstrap has provisioned for light- and dark-colored tables, page headings, more prominent pull quotes, and text with a highlight.

Bootstrap also comes with several JavaScript components which do not require other libraries like jQuery. They provide additional user interface elements such as dialog boxes, tooltips, progress bars, navigation drop-downs, and carousels. Each Bootstrap component consists of an HTML structure, CSS declarations, and in some cases accompanying JavaScript code. They also extend the functionality of some existing interface elements, including for example an auto-complete function for input fields.



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