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FRONT END WEB DEVELOPMENT WITH REACT

OVERVIEW

This course will help you to learn the concepts of Front End React JS Development by learning HTML, CSS, JavaScript, ES6, React JS and jQuery for a stronger foundation. This will start with training you in designing basic web pages, creating user-friendly websites, styling and animating various elements on them to make you an expert front end web developer.

FEATURES

LIVE MENTOR SUPPORT & STUDENT EXPERIENCE TEAM

WANT A BREAK? PAUSE YOUR COURSE

60 DAYS PAUSE

GET AN INDUSTRY RECOGNISED CERTIFICATE

BE A PART OF THE INDUSTRY COMMUNITY

SLACK

COMPANIES HIRING

airbnb

CISCO

Hashed in
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PRODUCTS THAT HAVE BEEN BUILT USING WEB DEVELOPMENT WITH REACT

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COURSE OFFERINGS

BASIC

- Front end web development with React

STANDARD

- Introduction to Programming
- Data structures and algorithms
- Front end web development with React

PRO

- Front end web development with React
  - 10 industry mentor sessions
  - Resume Building Workshops
  - Help in profile building
  - 100+ curated interview problems
  - DSA mock test series to crack product companies

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PREMIUM

- **Introduction to Programming**
- **Data structures and Algorithms**
- **Front end web development with React**
  - 10 industry mentor sessions
  - Resume Building Workshops
  - Help in profile building
  - 100+ curated interview problems
  - DSA mock test series to crack product companies

INTRODUCTION TO PROGRAMMING

Learn the basics of the most popular programming languages (C++ /Java / Python) and become an expert in the core fundamentals of programming.

DATA STRUCTURES AND ALGORITHMS

Data structures and algorithms is all about organizing the information and finding the most efficient approach to solve a problem. Learning these concepts will in turn help you to improve your problem-solving skills and solve any real-world problems using technology.

FRONT END WEB DEVELOPMENT WITH REACT

Learn the best practices of converting data to a graphical interface, through the use of HTML, CSS, and JavaScript. Build amazing user interfaces or UI components using React library.

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INTRODUCTION TO PROGRAMMING

TOPIC	SUB-TOPICS	DETAILS
BASICS OF PROGRAMMING	**Flowcharts**	Introduction to flow-charts, Decision making using flowcharts, Loops, Example problems
	Variables and Data types	First program, Variables and data types, Taking input, How data is stored in memory, Arith-metic Operators
	Conditional statements	Introduction to If else, Relational and logical operators, Nested conditionals
LOOPS AND FUNCTIONS	**While loops**	While loops, Flow of execution of statements in while loop, Example problems using while loop
	Patterns	Introduction to patterns, Basic Patterns, Square Patterns, Triangular Patterns, Character Patterns, Reverse Triangle, Inverted patterns, Isosceles triangles

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TOPIC	SUB-TOPICS	DETAILS
LOOPS AND FUNCTIONS	For loops	For loops, Break and Continue, increment - decrement operators
	Functions	Introduction to functions, Working of function calling, Variables and its scope, Pass by value
ARRAYS	Introduction to arrays	Introduction to arrays, How arrays are stored in memory, Passing arrays to functions
	Searching and Sorting	Understanding Binary Search, Selection sort, Bubble sort, Insertion sort, Merging two sorted arrays
STRINGS AND 2D ARRAYS	Strings	Introduction to strings, storage of strings and their inbuilt functions
	2D Arrays	2D arrays, Storage of 2D arrays, Example problems using 2D Arrays

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DATA STRUCTURES AND ALGORITHMS

TOPIC	SUB-TOPICS	DETAILS
PROBLEM SOLVING TECHNIQUES	Recursion	Introduction to recursion, Principle of mathematical induction, Fibonacci numbers, Recursion using arrays, Recursion using strings, Recursion using 2D arrays
	Time and space complexity	Order complexity analysis, Theoretical complexity analysis, Time complexity analysis of searching and recursive algrithms, Theoretical space complexity, Space complexity analysis of merge sort
OBJECT-ORIENTED PROGRAMMING	Basics of OOP	Introduction to oops, Creating objects, Getters, and setters, Constructors and related concepts, Inbuilt constructor and destructor, Example classes
	Advance concepts of OOP	Static members, Function overloading and related concepts, Abstraction, Encapsulation, Inheritance, Polymorphism, Virtual functions, Abstract classes, Exception handling

TOPIC	SUB-TOPICS	DETAILS
LINEAR DATA STRUCTURES	Linked lists	Introduction to linked list, Inserting node in linked list, Deleting node from linked list, Midpoint of linked list, Merge two sorted linked lists, merge sort of a linked list, Reversing a linked list
	Stacks and Queues	Introduction to stacks, Stack using arrays, Dynamic Stack class, Stack using linked list, Inbuilt stack, Queue using arrays, Dynamic queue class, Queue
TREES	Generic Trees	Introduction to Trees, Making a tree node class, Taking a tree as input and printing, Tree traversals, Destructor for tree node class
	Binary Trees	Introduction to Binary Trees, Taking a binary tree as input and printing, Binary Tree traversals, Diameter of binary tree

TOPIC	SUB-TOPICS	DETAILS
TREES	Binary Search Trees	Introduction to Binary Search Trees, Searching a node in BST, BST class, Inserting and Deleting nodes in BST, Types of balanced BSTs
ADVANCED DATA STRUCTURES	Priority Queues	Introduction to Priority Queues, Ways to implement priority queues, Introduction to heaps, Introduction to Complete Binary Trees and its implementation, Insert and Delete operations in heaps, Implementing priority queues, Heap sort, Inbuilt Priority Queue
	Hashmaps	Introduction to Hash-maps, Inbuilt Hashmap, Hash functions, Collision handling, Insert and Delete operation implementation in hashmap, Load factor, Rehashing
	Tries	Introduction to Tries, Making a Trie Node class, Insert, Search and Remove operation implementation in Tries, Types of Tries, Huffman Coding

TOPIC	SUB-TOPICS	DETAILS
ADVANCED DATA STRUCTURES	Graphs	Introduction to Graphs, Graph Terminology, Graph implementation, Graph Traversals (DFS and BFS), Weighted and Directed Graphs,Minimum Spanning Trees, Cycle Detection in Graphs, Kruskal's algorithm, Prim's Algorithm, Dijkstra's algorithm
DYNAMIC PROGRAMMING	Introduction to Dynamic Programming	Introduction to Memoization, Introduction to Dynamic Programming, Fibonacci numbers using recursion, memoization and dynamic programming
	Applications of Dynamic Programming	Longest Common Subsequence (LCS) using recursion, memoization and dynamic programming, Edit distance using recursion, memoization and dynamic programming, Knapsack problem using recursion, memoization and dynamic programming

FRONTEND MODULE:

TOPIC	SUB-TOPICS	DETAILS
GETTING STARTED WITH BASICS	History of Web	Understanding how and who built the web
	Client server architecture	General architecture used by websites
	What happens when you visit a website	Learning what happens behind the scenes while opening a website
INTRODUCTION TO HTML	HTML structure	How to create the structure of a web page
	Tags in HTML	Learning about various tags in HTML like <a>, etc

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TOPIC	SUB-TOPICS	DETAILS
MORE ON HTML	More tags	Practice creating HTML with more tags
	Block v/s Inline elements	Understand the difference between inline and block HTML elements
	Table	Learn to create tables in HTML
FORMS	Form	What is an HTML form
	Form fields	Discussing various form elements like <input>, <textarea> etc
INTRO TO CSS	CSS Introduction	What is CSS and how to use it in HTML
	Blog page	Building and styling the blog project

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TOPIC	SUB-TOPICS	DETAILS
STARTING WITH RESUME PROJECT	Starting the project	Start building the Resume project by creating the HTML structure
FLEX	Intro to Flex	Learning what flex is and how it works
	Flex properties	Discovering various flex properties used to style HTML elements
	Using flex in Resume	Utilising flex to style the Resume project
COMPLETING RESUME	Pseudo elements	What are pseudo elements and where to use them
	Finishing up	Finish building the Resume project

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TOPIC	SUB-TOPICS	DETAILS
RESPONSIVE DESIGNS	Media queries	What is responsive design and how to use media queries to build a responsive web app that works with multiple devices
ANIMATIONS AND 3D SPACE	Animation properties	Basics of CSS animation and how to animate HTML elements using animate.css
BOOTSTRAP	Frontend frameworks	What are frontend frameworks and how to use one
BOOTSTRAP	Grid system	Learning about grid system of bootstrap
BOOTSTRAP	Bootstrap components	Using various other boot-strap elements like Navbar, Jumbotron etc

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TOPIC	SUB-TOPICS	DETAILS
MAJOR PROJECT	Assignment	Build a music player project with your newly gained skill set
STARTING WITH JAVASCRIPT	Intro to JS	What is JS and history of JS
	Variables, operators, loops	Learning the basics of the language
JAVASCRIPT: FUNCTIONS AND ARRAYS	Scope	Understanding scope in JS
	Hoisting	What is hoisting and its application.
	Functions expressions v/s Function declaration	Difference between function expression and declaration
	Arrays and its usage	What are arrays and using array functions like splice, slice etc.

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TOPIC	SUB-TOPICS	DETAILS
OBJECTS AND TIMING EVENTS	Intro to Objects	What are objects, how to create them and using different notations to access object's data
	Object functions	Learn to iterate over objects, delete object properties, creating nested objects
UNDERSTANDING DOM	DOM	Understanding DOM, what it is, how to access elements from the DOM
	Events	How to manipulate DOM events in JS
CALCULATOR PROJECT	Assignment	Creating a mini calculator with basic functionality
MINI PROJECTS USING JAVASCRIPT	let v/s var	Learning different ways to create variable
	Catch me if you can	Build a game using vanilla Javascript

TOPIC	SUB-TOPICS	DETAILS
CLOSURES	Revision	Revising some old concepts like Scope, window object etc
	IIFE	What are immediately invoked function expressions
	Closures	What are closures and its application
	Arrow functions	Learning about arrow functions and bindings in arrow functions

TOPIC	SUB-TOPICS	DETAILS
CONSTRUCTORS AND PROTOTYPES	"this" keyword	How does the "this" keyword works in JS
	Prototypes	Discussing what are prototypes in JS, why do we use them and its application
	Class	Learning about using classes in JS and how to deal with class inheritance in JS

TOPIC	SUB-TOPICS	DETAILS
PROJECT: PING PONG GAME	Assignment	Building the famous ping pong game with Javascript
JQUERY	Intro to jQuery	What is jQuery and what is the need for it
	Event handling in jQuery	Handling various JS events with jQuery and exploring the library
AJAX	Intro to AJAX	What are async requests, what is API and JSON
	Ajax requests with jQuery	Making ajax requests with jQuery and handling errors

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TOPIC	SUB-TOPICS	DETAILS
PROMISES	Intro to promises	What is a promise, how do we use promises and chaining promises
GIT	Intro to Git	What is git and why it's helpful
	Branches	Discussing what are prototypes in JS, why do we use them and its application
	Git workflow	Understanding push, commits, pull requests and using git for teams and individual

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REACT MODULE

TOPIC	SUB-TOPICS	DETAILS
INTRO TO REACT	SPAs v/s MPAs	Difference between Single page apps and Multi page apps
	React philosophy	What is React's philosophy?
	React v/s others	Why React stands out from other JS libraries and frameworks
HELLO WORLD	Using React	Ways to start using React in a project
	Babel	Using babel and under-standing how it works with React
	Conditional rendering	Rendering different components based on different conditions
MINI PROJECT: STARTING THE PROJECT	Introduction to the project	Introduction to Cart and its working
	Adding CSS	Styling the cart using CSS
	Using state	Adding state to Cart

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TOPIC	SUB-TOPICS	DETAILS
MINI PROJECT: MANAGING STATE	More on React state	React state in depth
MINI PROJECT: FINISHING UP	Rendering lists	How to render list of items
	Props	What are props and how do we work with them
	Delete, adding Navbar, total products count	Building more functionalities of cart
FIREBASE: MINI PROJECT EXTENDED I	Introduction to Firebase	Understanding what is firebase and how it actually works
	Component lifecycle	Learning about lifecycle of a React component
	Firebase setup	Setting up firebase and adding it to the project

TOPIC	SUB-TOPICS	DETAILS
FIREBASE: MINI PROJECT EXTENDED II	CRUD with Firebase	Learning how to create, read, update and delete data from firebase
	Querying data	Querying data from firebase
MINI PROJECT	iPod	Assignment project, building a vintage iPod
INTRO TO REDUX	All about Redux	What is redux, why and when do we use it
	Setting up the project	Setting up the Movie search project
	Adding UI	Start adding components to the project

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TOPIC	SUB-TOPICS	DETAILS
REDUX: ACTIONS, REDUCERS, STORE	Reducers	What are reducers and creating reducers for the app
	Actions	What are actions, dispatching actions, creating actions for the app
	Store	What is store, subscribing to the store and adding store to the project
REDUX CONTINUED	Currying	Understanding the currying concept in Javascript
	Combining Reducers	How to combine reducers to make the app more efficient
	Middleware	Learning about middle-wares and using some with Redux
	Thunk	Using thunk to make async calls to an API

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TOPIC	SUB-TOPICS	DETAILS
REACT AND REDUX	Context API	What is the context API and how to use it
	HOC	Learning about Higher order components in React
	Connect() with Redux	Diving deep into how connect() works in Redux and using react and redux together
MAJOR PROJECT: SETUP AND INTRO	Project setup	Setting up the social media project
	PropTypes	Using PropTypes for props validation
MAJOR PROJECT: ROUTING AND AUTH	React router	Adding react router to the project to handle different routes
	Auth in SPA	Understanding how auth works for SPAs
	Form handling	Ways to handle form in React
	User login	Building the user login functionality

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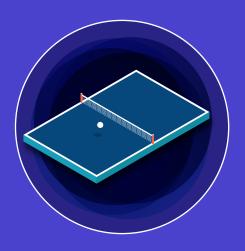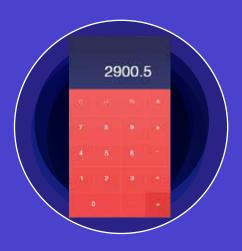| TOPIC	SUB-TOPICS	DETAILS
MAJOR PROJECT: USER PROFILE	Settings page, editing a user, add user as a friend	Building various functionalities of the social media app
MAJOR PROJECT: SEARCH AND CHAT	Searching users	Adding functionality to search users
	Building the chat box	Creating the chat using sockets
REACT HOOKS	useEffect, useState and other hooks	What are hooks, why do we use them and various React hooks out there

PROJECTS

Static Blog

Build the UI of a basic blog using HTML.

Ping Pong Game

Build a vintage game, ping pong, using vanilla Javascript.

Mini Calculator

Build a calculator web app with Javascript as the core and style it with CSS.

Music Player

Build and style a music player like Spotify
/Youtube Music using HTML and CSS.

Shopping Cart

Build the basic functionality of the shopping
cart as you see in Amazon and Flipkart.

iPod

Build a clone of iPod nano 5th gen.

Movies App

Search any movie and store it as your favourite.

TOOLS AND TECHNIQUES

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VAIBHAV MEHRA

I took the Full Stack Web Development course that helped me a lot during interviews. We were asked to make many projects that proved to be fruitful.

DHARNEESH GUPTA

My experience at Coding Ninjas was exceptional. The outstanding course content helped me to enhance my logic and made me aware about how to approach a hard coding problem

NAMAN MITTAL

I liked Coding Ninjas' course structure as it covered all topics. The faculty helped me in building a strong base. I would recommend all to connect with CN.