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Intern Learning Programme

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Ujjwal
Enterprise Minds

Overview

This is a learning programme / pathway for interns. It includes the pathway, resources for reference and projects to build.

1st week -> Unix and Git

1. Introduction to Unix and shell scripting.
2. Introduction to Git.
3. Branching and Merging in Git.
4. Collaborating with Git .i.e Pull, add, commit, push etc

Resources

1. Linux tutorial - Basic Command Line
2. Git tutorial for beginners
3. Complete Git tutorials

2nd and 3rd week -> HTML and CSS Fundamentals

1. Introduction to Web , HTML and CSS.
2. Browsers and how do they work / HTTP
3. Writing semantic HTML . Forms and validations
4. Box model, Positioning
5. Flexbox, Typography
6. Adding media, Lists, Tables
7. Responsive web design

Projects in HTML and CSS

1. A resume
2. A blog website
3. Local gym website
4. A sign-up and Login form
5. Photography site

Resources

1. https://developer.mozilla.org/en-US/docs/Web/HTML
2. https://developer.mozilla.org/en-US/docs/Web/CSS
3. Youtube playlist for HTML and CSS

4. https://css-tricks.com/

3rd and 4rth week -> Javascript Fundamentals

1. Value, variables and types.
2. Functions
3. Data structure (Arrays and Objects)
4. Array and string methods
5. Debugging and Chrome developer tools
6. Introduction to DOM
7. DOM and Events

Projects (Javascript fundamentals)

1. Array methods implementation
2. Calculator
3. Todo App
4. Login and Signup modal
5. A javascript Clock
6. A javascript quiz

5th and 6th week -> Advance Javascript

1. Higher order functions
2. Scope and Closure
3. Advance DOM and Canvas
4. Prototypal nature of object
5. Prototypal inheritance, this
6. Ajax, promise and Async/Await (Asynchronous javascript)
7. ES6 Js
8. Error handling and writing tests.

Projects

1. Fetch implementation

2. Blackjack / tic-tac-toe game
3. Reddit clone
4. 2D Breakout Game

Resources

1. https://developer.mozilla.org/en-US/docs/Web/JavaScript
2. The complete javascript course
3. Youtube playlist
4. Namaste Javascript Playlist
5. Javascript : The advanced concepts
6. Functional programming in JS
7. Iterators and generators in javascript
8. Chrome developers tools crash course
9. 55 projects with Javascript
10. Testing basics with jest

7th week -> Advanced CSS

1. Complex selectors
2. Preprocessors
3. Transform, transition and animation
4. CSS Grid

8th and 9th week -> React JS fundamentals

1. Why React?
2. Components and Props
3. State and Events
4. Lifecycle and Data fetching
5. Forms (Controlled Components)
6. State upliftment
7. Type checking with prop types

Projects

1. ToDo app
2. News App
3. Tic Tac Toe
4. Weather App

10th and 11th week -> Advanced React

1. Routing in React
2. Authentication and authorization
3. Uncontrolled components
4. Context
5. Accessibility and Error boundaries
6. Why Redux?
7. Async Actions, Reducers and Store in Redux
8. Redux middlewares and Connecting with redux
9. Optimizing performance
10. React Hooks
11. UseContext, UseReducers and custom hooks.

Projects

1. A social media app
2. Covid 19 tracker application
3. An E-commerce app
4. A login system with React / Redux

Resources

1. Official React Docs
2. Official Redux Docs
3. React - The Complete Guide (incl Hooks, React Router, Redux) *Mandatory

12th Week -> Some important DS and Algo

1. Linked list, Queue, Stack, Hash Table, Heap, Tree
2. Math, sets, strings
3. Sorting and searching

Projects

Solving problems on different platforms like Leetcode, codewars, FreeCodeCamp etc

Resources

1. [Data structure and Algorithm in Javascript](#)

NOTE :- *Simultaneously read a little about Node.Js, API and Authentication, XSS, CSRF, CORS, Session attacks, DDoS, Configuring and Deploying Applications, Working with 3-rd party APIs, and* **Caching.**

* Also can practice on [FreeCodeCamp](#) for the above topics. (Especially HTML, CSS and JS)