

TheAtoms

Frontend Web Development Course

Micro Syllabus

Table of Contents

Topics	Page Number
Introduction	1 – 1
HTML	1 – 4
CSS	5 - 8
Bootstrap	8 – 8
JavaScript	9 – 13
Terminal	14 – 14
Git	15 – 15
GitHub	15 – 15
React	16 – 16

1)Introduction

- a. What is Internet?
 - i. Understanding about the internet
 - ii. How the web works?
 - iii. What is Web Development?
- b. Client Server Architecture
 - i. What is client?
 - ii. What is server?
 - iii. How clients send request and servers respond
- c. Setting Developer Environment
 - i. Setting up VS Code
 - ii. Understanding Developer console & Debugging

2)HTML

- a. Introduction
 - i. What is HTML?
 - ii. HTML Document Structure
- b. Elements in HTML
 - i. Paragraph
 - ii. Heading
 - iii. Image
 - iv. Anchor
 - v. Audio
 - vi. Video
- c. Tags in HTML
 - i. **Basic Structure Tags**
 - 1. DOCTYPE
 - 2. html

3. head
4. title
5. body

ii. **Meta & Document Information**

1. meta
2. link
3. style
4. script

iii. **Other Tags**

1. br
2. hr
3. b
4. i
5. sub
6. sup
7. em
8. strong
9. nav

iv. **Lists**

1. ul
2. ol
3. li

d. Semantic HTML

e. Block vs Inline

- i. Difference between block and inline elements
- ii. How do they effect webpage layout & spacing

f. Tables

- i. Introduction to tables
- ii. How to create tables
- iii. **Tags in Tables**

1. table
2. tr
3. td
4. th
5. thead
6. tbody
7. tfoot
8. caption
9. rowspan
10. colspan

g. Forms

i. What is form?

ii. **Form Elements**

1. Input Fields
2. Label
3. Text Area
4. DropDown
5. Radio & Checkboxes
6. Buttons

iii. **Form Attributes**

1. action
2. method
3. autocomplete
4. required

iv. **Form Validation**

1. Built in validation
2. Custom validation using JavaScript

3)CSS

a. Introduction

- i. What is CSS?
- ii. How to use it with HTML?
- iii. **Different styles of writing CSS**

- 1. Inline CSS
- 2. Using style tag
- 3. External CSS

- iv. **Basic Properties**

- 1. Color Property
- 2. Background Color Property

- v. **Color System**

- 1. Named Colors
- 2. RGB Colors
- 3. Hex Code

- vi. **Text Properties**

- 1. Text Align
- 2. Font Weight
- 3. Text Decoration
- 4. Line Height
- 5. Letter Spacing
- 6. Font-Size & It's units
- 7. Font Family
- 8. Text Transform

- vii. **Selectors**

- 1. Universal Selector
- 2. Element Selector
- 3. ID Selector
- 4. Class Selector
- 5. Descendant Selector

6. Attribute Selector

viii. **Combinators**

1. Adjacent Sibling Combinator
2. Child Combinator

ix. **Pseudo Classes**

1. hover
2. active
3. checked
4. nth-of-type

x. **Pseudo Elements**

1. first-letter
2. first-line
3. selection

xi. What is cascade in CSS?

xii. Specificity in CSS

xiii. Inheritance in CSS

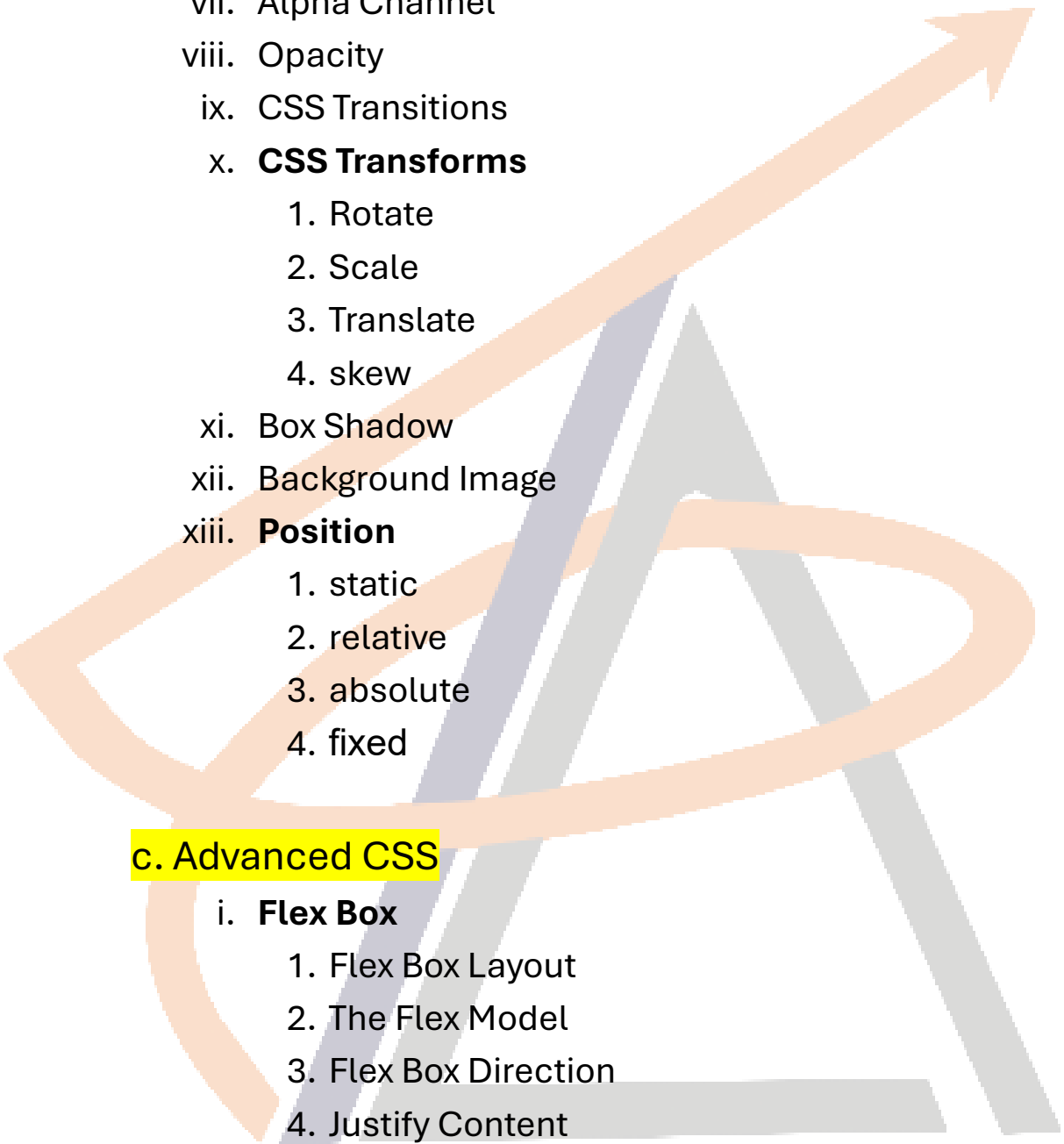
b. Intermediate CSS

i. **Box Model in CSS**

1. height
2. width
3. border
4. padding
5. margin

ii. **Display Properties**

1. Inline vs Block
2. Display
 - a. inline
 - b. block
 - c. inline block
 - d. none

- 
- iii. Units in CSS
 - iv. Percentages
 - v. em (Relative to)
 - vi. rem (Root em)
 - vii. Alpha Channel
 - viii. Opacity
 - ix. CSS Transitions
 - x. **CSS Transforms**
 - 1. Rotate
 - 2. Scale
 - 3. Translate
 - 4. skew
 - xi. Box Shadow
 - xii. Background Image
 - xiii. **Position**
 - 1. static
 - 2. relative
 - 3. absolute
 - 4. fixed

c. Advanced CSS

- i. **Flex Box**
 - 1. Flex Box Layout
 - 2. The Flex Model
 - 3. Flex Box Direction
 - 4. Justify Content
 - 5. Flex Wrap
 - 6. Align Items
 - 7. Align Content
 - 8. Align Self

- 9. Flex Sizing
- 10. Flex Grow
- 11. Flex Shrink
- 12. Flex Shorthand

ii. **Grid Model**

- 1. Grid Template
- 2. Grid Repeat
- 3. Grid Gaps
- 4. Grid Columns
- 5. Grid Rows
- 6. Common Properties
- 7. Z-Index

iii. Media Queries

iv. CSS Animations

d. Bootstrap

- i. What is Bootstrap?
- ii. What is CDN?
- iii. Grid
- iv. Break Points
- v. Components
- vi. JavaScript Plugins
- vii. Styling
- viii. Forms
- ix. Alerts

4) JavaScript

a. Language Fundamentals

- i. Variables
- ii. Data Types in JS
- iii. Identifier Rules
- iv. Strings in JS
- v. Difference between null & undefined
- vi. Difference between let, var, const
- vii. Linking JS File
- viii. Template Literals
- ix. **Operators in JS**
 - 1. NAN in JS
 - 2. Operator Precedence
 - 3. Assignment Operators
 - 4. Unary Operators
 - 5. Increment & Decrement Operators
 - 6. Comparison Operators
 - 7. Logical Operators
- x. **Conditional Statements**
 - 1. if-else
 - 2. nested if-else
 - 3. switch
- xi. Truthy & Falsy values
- xii. Alerts & Prompts
- xiii. **Strings**
 - 1. What is String?
 - 2. Why strings are immutable?
 - 3. String Methods without arguments
 - a. toUpperCase
 - b. toLowerCase

4. String Methods with argument

- a. indexOf
- b. slice
- c. replace
- d. repeat

xiv. **Arrays**

1. Array Creation

2. Properties

3. Array Methods

- a. push
- b. unshift
- c. pop
- d. shift

4. Other Array Methods

- a. indexOf
- b. includes
- c. concatenate method
- d. reverse
- e. slice
- f. splice
- g. sort

5. Array References

6. Constant Arrays

xv. **Loops**

- 1. for loop
- 2. while loop
- 3. for of loop

xvi. JS Object Literals

xvii. Array of Objects

xviii. Math Object

b. Intermediate JavaScript

- i. Function in JS
- ii. Return in JS
- iii. **Scope**
 - 1. Function Scope
 - 2. Block Scope
 - 3. Lexical Scope
- iv. JS Function Expressions
- v. Higher Order Functions
- vi. Methods in JS
- vii. this keyword
- viii. try & catch
- ix. **Miscellaneous Topics**
 - 1. Arrow Functions
 - 2. Set Timeout
 - 3. Set Interval
- x. this with Arrow Functions
- xi. **Other Array Methods**
 - 1. forEach
 - 2. map
 - 3. filter
 - 4. every
 - 5. some
 - 6. reduce
 - 7. Default Parameters
- xii. **Spread**
 - 1. Spread with Array Literals
 - 2. Spread with Object Literals
- xiii. Rest
- xiv. Destructuring

c. Advanced JavaScript

i. DOM

1. What is DOM?

2. Selecting Elements

- a. getElementById
- b. getElementsByClassName
- c. getElementsByTagName

3. Setting content in Objects

- a. innerText
- b. textContent
- c. innerHtml

4. Manipulating Attribute

- a. getAttribute
- b. setAttribute

5. Manipulating Styling

- a. style property
- b. using classList
- c. toggle

6. Navigation on Page

- a. parentElement
- b. children
- c. previousElementSibling / nextElementSibling

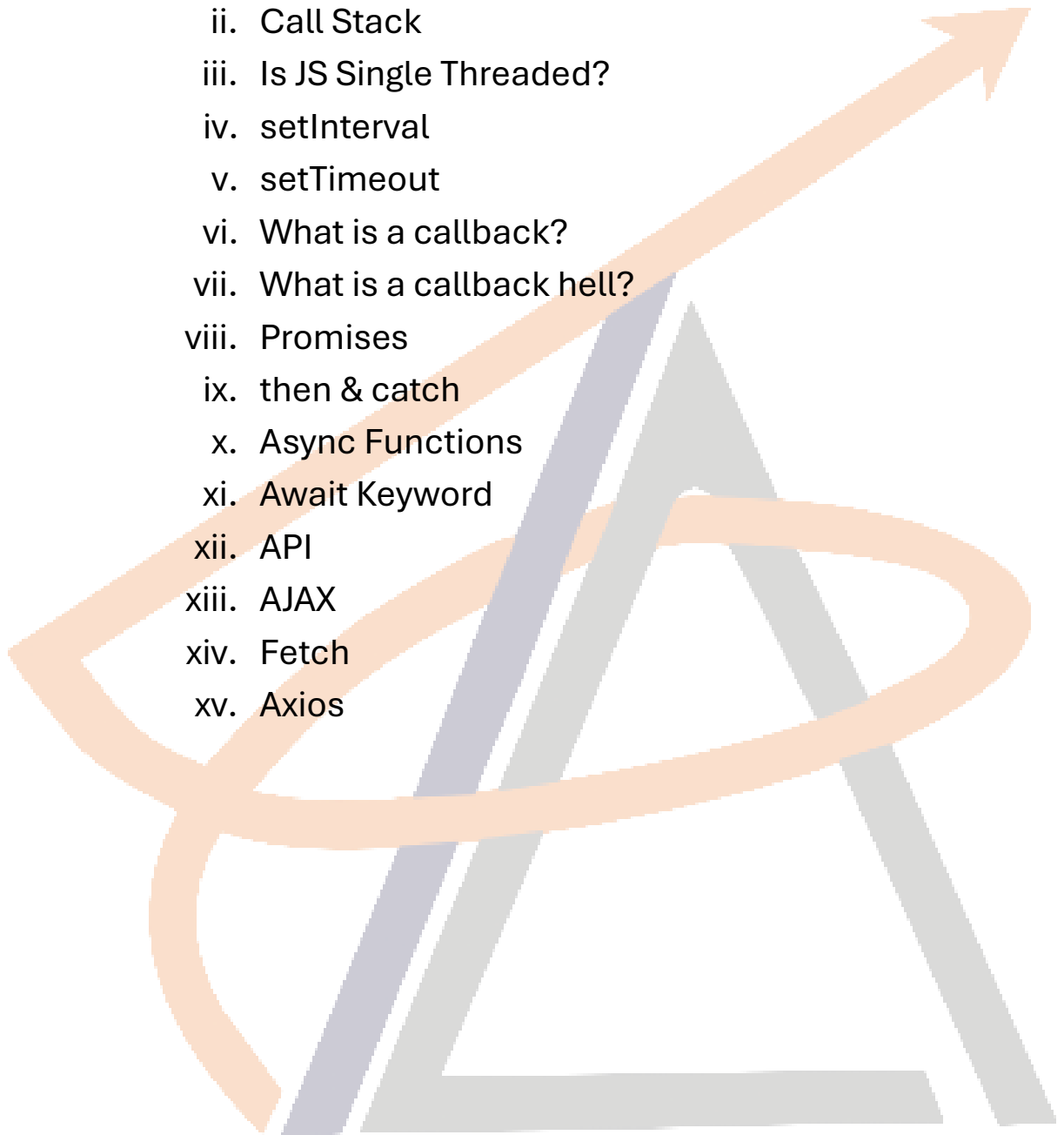
7. Navigation

- a. *Adding Element*
 - i. appendChild
 - ii. append
 - iii. prepend
 - iv. InsertAdjacentElement
- b. *Removing Elements*
 - i. removeChild
 - ii. remove

8. DOM Events

- a. Inline Events

- b. Mouse Events
- c. Event Listener
- d. Keyboard Events
- e. Form Events
- f. Other Events
- ii. Call Stack
- iii. Is JS Single Threaded?
- iv. setInterval
- v. setTimeout
- vi. What is a callback?
- vii. What is a callback hell?
- viii. Promises
- ix. then & catch
- x. Async Functions
- xi. Await Keyword
- xii. API
- xiii. AJAX
- xiv. Fetch
- xv. Axios



5)Terminal

- a. What is terminal?
- b. Benefits of terminal

c. **Different Terms**

- i. Command Line
- ii. Terminal
- iii. Console
- iv. Shell
- v. Bash
- vi. Z-Shell

d. Basic Commands

- i. ls
- ii. pwd
- iii. clear

e. Navigation

- i. cd
- ii. cd ..
- iii. /
- iv. cd ../..

f. Paths

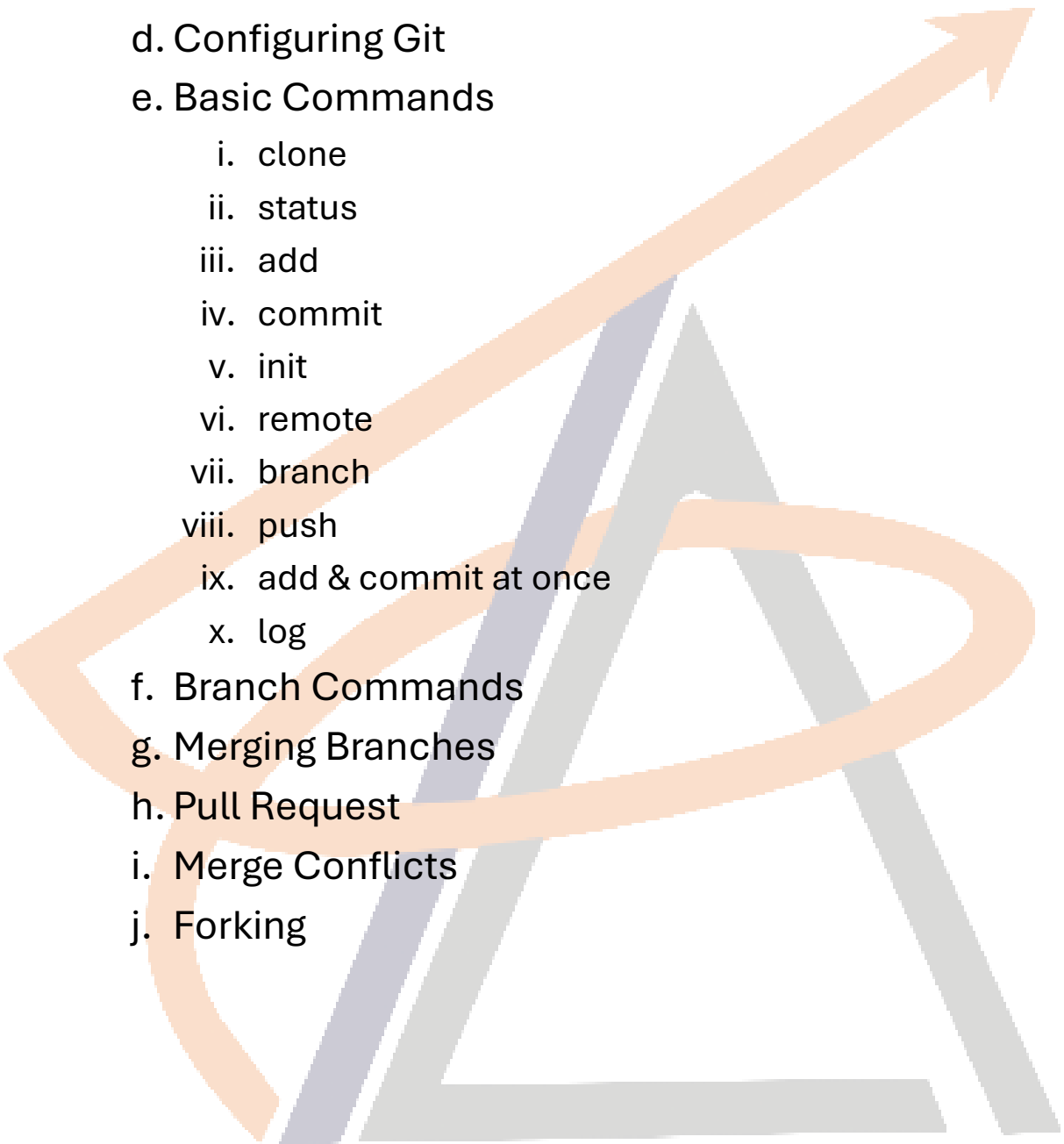
- i. Absolute
- ii. Relative

g. Making Directories

h. Flags

- i. Touch Command
- j. Deleting Files & Folders

6) Git & GitHub

- a. What is Git?
 - b. What is GitHub?
 - c. How to use Git?
 - d. Configuring Git
 - e. Basic Commands
 - i. clone
 - ii. status
 - iii. add
 - iv. commit
 - v. init
 - vi. remote
 - vii. branch
 - viii. push
 - ix. add & commit at once
 - x. log
 - f. Branch Commands
 - g. Merging Branches
 - h. Pull Request
 - i. Merge Conflicts
 - j. Forking
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7)React

a. Introduction

- i. What is React.js
- ii. Setup React Environment
- iii. React installation
- iv. Folder & File Structure
- v. Make the First Component
- vi. Importing & Exporting Components
- vii. Writing Markup with JSX
- viii. JavaScript in JSX with curly braces
- ix. React.js Click event & call Function

b. Intermediate React

- i. State in React.js
- ii. Multiple Conditions or Else If
- iii. Props
- iv. Forms
- v. Loops
- vi. **Hooks**
 1. useState
 2. useEffect
 3. useRef
 4. useFormStatus

c. Advanced React

- i. React Router
- ii. API's in React
- iii. Lazy Loading
- iv. **Hooks Revisited**
 1. useTransition
 2. useActionState
 3. useReducerHook