React Js React Is library that optimizes DOM manipulation by writing very simple code. writing very simple code. Js Hibrary for creating UI, makes development of UI components eary and modular is used for applications where data keeps changing very frequently component - based architecture on browser can be anything you want to render on browser can be Key features rendered through components. Vertual DOM - improves performance Unidirectional data flow (one -way binding) keeps then you can achieve weal everything modular JSX syntax and early makes it easy for writing markup and binding events in components SEO performance dissippros appropriations dies galarab node modules - All node module dépendencies are created an thas bolder. public [index. html -) first page that gets loaded when you run your capplication src/ indexis -> entry point of the application package of jon -> contains dependencies of react application strangered class based functional board end it squares in of school of Hilly the noming convertion - Power

components (RC) Keact when you have different sections in your page it to say writing very comple ride. - Entire page will get re-rendered even when a section cof on para Loungeness Tallar the page undergoes changes - You will have to rewrite code even they have behavior - You have to make sure that functionality of one part of the application do not interfere with another part arndered through components divide them into components encapsulate its own data and presentation logic then you can achieve modularity and re-usability. everything medicles RC fundamental unit of any React application 6 works in conjunction with each otherwaying 12 makes it early his V DOM ADIOGRAPOS Actual DOM RCS components will document RC we develop reside Mouncompon be available as noder in Dom MOON M CI 11A C3 25711 public Endex. Attout of first page that signif abstraction of VDOM components = nodes & If to tring and can be updated -> modify 400M modifying is expensive components oupplication Functional based clair based - simple Is fine -) returns HTML ele naming convention - Pascal

```
rendered. By rendering a component, component must be
    React DOM. render ( & parami /> , param 2 )25
                                HTML node reference where
             name of component
                 to be rendered component to be rendered
feactoreate Hement ("M", & ?, " content")
               devent attri coisse uno
          -> component must be exported so that it could
        be used in any other filer.
  componentiwetim to JSX elementing
       (JavaScript XML)
                      I write more lines of Is code
    Code wing JS - & difficult to understand
     homes and place sports sound any productivity goes down
 Try in react - to create elements that are very
       tany to read and points which makes component's
    Jsx in React -
       code simple and understandable.
    To create a login component using JST:
    function Apply & . Mad als about prostessance
          return( < form > < hz> login </hz>
 wordties itnonzenput type = "text", placeholder = "Name" /> < by/>
             ornput type = "password" placeholder = "pwd"/> <br/>
             e input type: "submit" nvalue = "log"/3
         e/form>);
      export default APP;
```

JSX - allows you to write HTML + 19 coole with in Is code. It makes it easier to describe the structure of us components:) ishor modern Read compounts often return sons and of

JS Code JSK code conversion with ehrs Hello ! 2/h1 > React. Create Element ("h1", {}, ed to any other story "Hello!")

This conversion happens, as browser doesnot understand uring plugin of the babel. JSX code .

Js compiler transforms modern 15 code ento older

to the to the to the to while rendering, you must render only one element. Adjacent 15x elements must be wrapped in an enclosing tag: div > tag can be und for this.

code simply and understandable. eact fragments wing this entroducer an extra and unnecessary node into the DOM. 3 Ugga goldon!

React Fragments and surros s provide

allows group a 1954 of React elements without adding any node to the DOM. extra

. (Kmroils

sypert defoult Affi

```
function App () {
     return (
                               A Fil > wowsalk
           < Peact. Fragments
           < ho> Reacts: </ho>
           < 9mg src =" ... " width = "120" hight = "120"/>
           ep > This is a paragraph <1p>
                 Gasani ome 11 go reles pagas à
      e/React. Fragments
      Did deligion - sproty - + 3 = + - 5
         call & employer , emp 1 de des.
   export default App;
Instead of React. Fragment -> you can use <> empty tags
JavaScript Expressions in Jsx
    < h12 { Expression to be evaluated } </ h1>
     zhi > { " content to be displayed "} } elhis
Leys in React are used to identify the items that
 are added, removed or modified. Keys should be
 provided to the elements incide the array to provide
 a unique identity.
 Key: should be unique.
 map () - You can render 19sts in beact wring map (
```

van employees = [

{ eId: 123, name: "A"; derig: "SE"},

{ eId: 124, name: "B", derig: "SE"},

{ eId: 127, name: "C", derig: "TA"},

```
e tables
                    etr> EmpId e/th> cth> name c/th>
             etheads etr>
                    eth> Designation 
       " - then ! " our " 
             </thead>
             may now o ...
               ¿ employees. map ((employee) =) {
                                 El Head Fragmont
                    key = { employee . empld} >
                return (
                    {td> { employee.empId} 
                                 name <(fo>
                 < Hd>
                                · derignation </ta>
                    < fd>
              and result. Fragment of 48415an was
               3)}
                         wat my anosassang tarry
            </thody>
          Eltable bolomby so of no manges } sil
                  boundary to be displayed
 Styling Components wildrabi on born and and
      Intened styles banksborn to beronge behin
      < hi style = & { color: green } } > Welcome </hi>
     Modifying Appoces file
                             there is board in it
            className = "headings "> Heading </hi>
igom priceshipped of deel order rape de la light
     In App. css
        · heading 1 }
         background - color: blue;
        color: whit;
             border-radius: 10 px,
      . Tenger Tolly.
     import App. css into App compount
```

3 Clorp No. -

return (

~ can stile components using bootstrap library, enstall bootstrap lebrary

npm install bootstrap

> node_modules

> pootstoch

bootstrap . min . css - emport this

fildinis

E - Lend by Henry

React - Bootstrap library of remable front end components

npm enitall react bootstrap

- popular React UI framework which 1 Material-UI provides various components and themes for styling React componentiente

I index css acts as a global css file

The conditions I then state being the second of the second State and Props

In a real-time application, components must deal with dynamic data.

The data could be something internal to the component or may be the data is passed from another component. To bend the data to the component - state and props.

EMONORALINA TO CHASTER we where to reache my stronognos itos state etamone of to West and

court [count, carount] = viestale(0). the start of sind was likely

420 of melor soften as etadlication sealor a cristope aldoing attite

```
- Js object med to manage data of an apple cate
State - initial value set for a component, which
   constructor() {
          superc);
          this state = { counter : 13;
                  ३३ - ११८८ १० ० वक्तारी अन्ति अदि
creating a timer component, where on clicking a button,
   the timer starts
  button is sourced clicked; Envoke handle Click!)
 method - set the anterval and peus it to start method
     handle Click(e) & in transques warren abivara
            thes. interval = set Interval (this. start, 1000).
     ţ
                     rocci acts on alphora cis often
  start() {
       thes. set State ( { seconds Elapsed : this state , seconds Elapsed)
                        in in remarking application it
 if it is called it calls render() method to
  render updated value on vI
               i state and par per
setState() " asynchronous
      we callback to resolve Essues.
 use State () -> to associate state with components
          court [count, setCount] = vseState(0);
                State von fine to update 1 state count function which takes
                     initial state as initial value for any
```

state variable returns 2 value

- state are mutable
- reserved for interactivity.

components event handlers may update the state and trigger a us update

- state will be set with default value when component mounts and will mutate in time based on user eventi generated.

trops: allow us to pass data from one component to another component

- Emmotatele
- → a component cannot change its posops however it is responsible for putting together.

< App initial={10}/> In the component App, property would be accessed as this props initial

Inorder to access props within the constructor, we need to pass props as an argument to both constructor() and super()]

Code: constructor (props) {

Super (props) courde. (og (this . props. name)