\* Introduction

React is a popular javascript library for bailding user interfaces It is also referred to as a front-city javascript library. It was developed by facebook and is widely used for as cheating dynamic and interactive web applications.

\* What is React ?

React is a javascript library for bailding uset interfaces on the web. React is a declarative component based library that allows developers to baild reasoble UI Components and it follows the virtual Dom approach, which optimizes rendering performance by minimizing Dom appartes peact is fast and works well with other tools and libraries

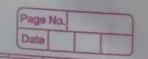
\* History of react

the traditional DOM Slow.

this issue and gained popularity hapidia

The Cartent Stable version of Reactjs is 18.3.1 heleased on Jame April 2021.

The liberty continues to evolve, introducing new features with each update.



## \* Features of React

React is one of the most demonating Javascript librarys because it is equipped with a ton of features which makes it faster and production-ready. Below are the few features of React.

# 1 Component - Based Architectate

React provides the feature to break down the UI into smaller self-contained components. Each component can have its own state and props.

## 2 JSX CJavaschipt syntex Extension)

JSX is a syntex extension for Javascript that allows developers to write HTML like code with in their Javascript file. It makes React components more readable and expressive

\* ex

Const name = "Grathod";

Const element: <h1> welcome to {name} </h1>;

## 3 virtual DOM

React maintains a lightweight teptesentation of the actual oom in memory. When changes occur, React efficiently updates only the necessary parts of the Dom

### 4 One - way Data Binding

The data in react flows only in one direction exc. the data is transferred from top to bottom, from patent components to child components.

Page	No.		
Date			

5 Perfomance

heact uses virtual Dom and updates only the momentum parties parts. So, this makes the Dom to thin faster Dom executes in memory so we can create sepropore companions which makes the Dom ten faster.

6 Components Premariable Architectural 1

heact divides the Webpage into mattiple components as it is component based. Each component is a falt of the UT design which has its own logic sond design the component logic which is written in Javaschipt makes it easy and thin fastel and can be leasable.

Single Page Application (SPAS)

React is recommended in cheating SPAS allowing Smooth content applates without page reloads Its focus on reasone companions makes it ideal for real-time applications

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#### \* React Setap

9 OF SUPERIOR PROPERTY OF THE Method 1: using cheate heact-app

Step 1: Navigate to the folder where you want to Cheate the project and open it in terminal

step 2: In the terminal of the application directory type the following command ב שמונים בורים בורים בורים בירים ביורים

· npx create-teacte-app folder-name

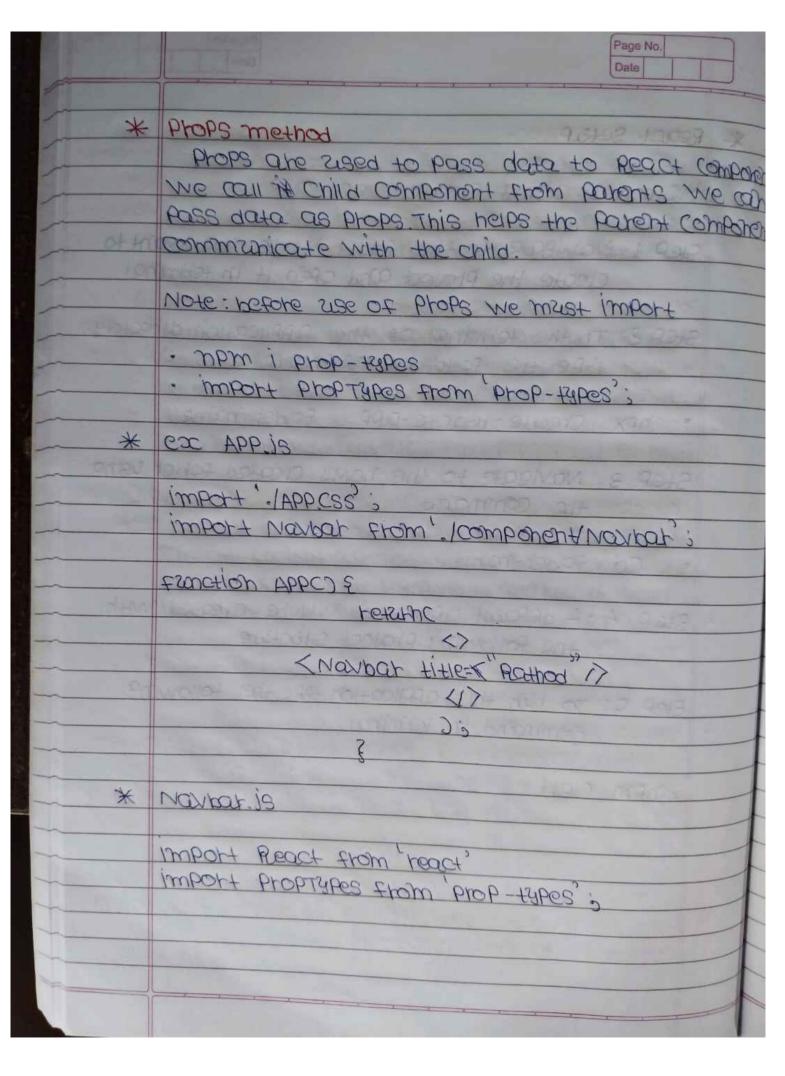
Step 3: Navigate to the news created tolder using the Command ליות ביות ביותר הפושה לומות ביותר בי

· Cd folder-name

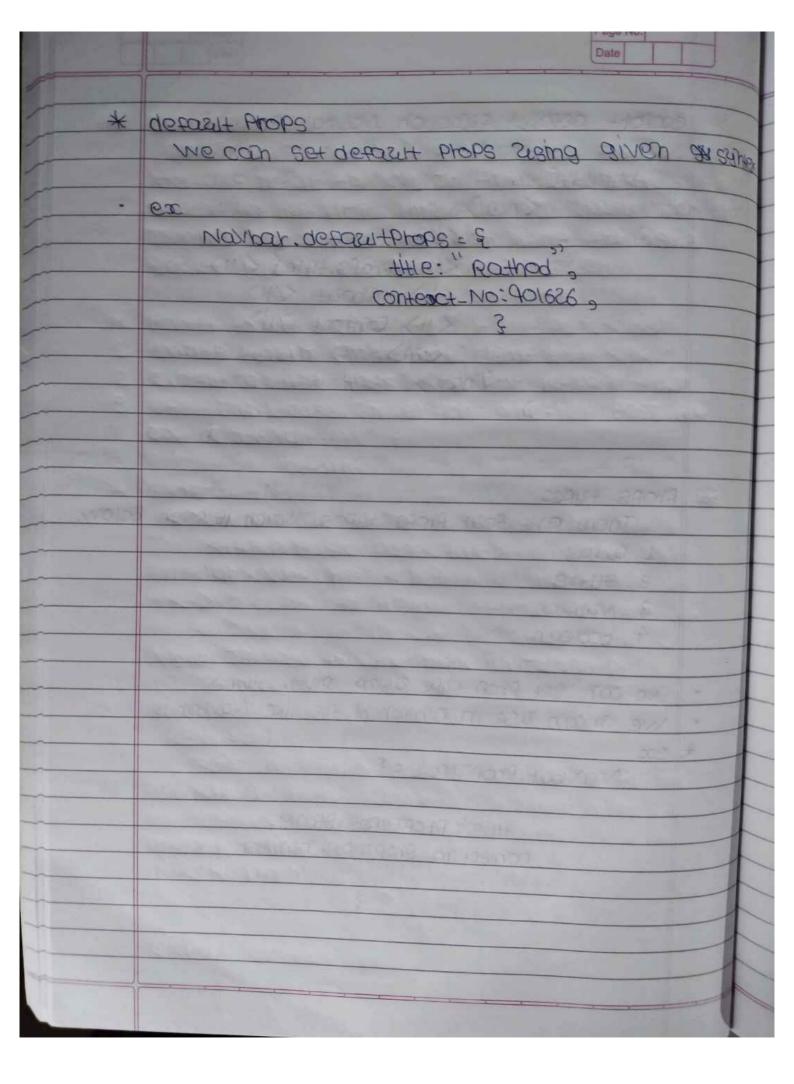
Step 4: A defacult application will be created with the following project structure.

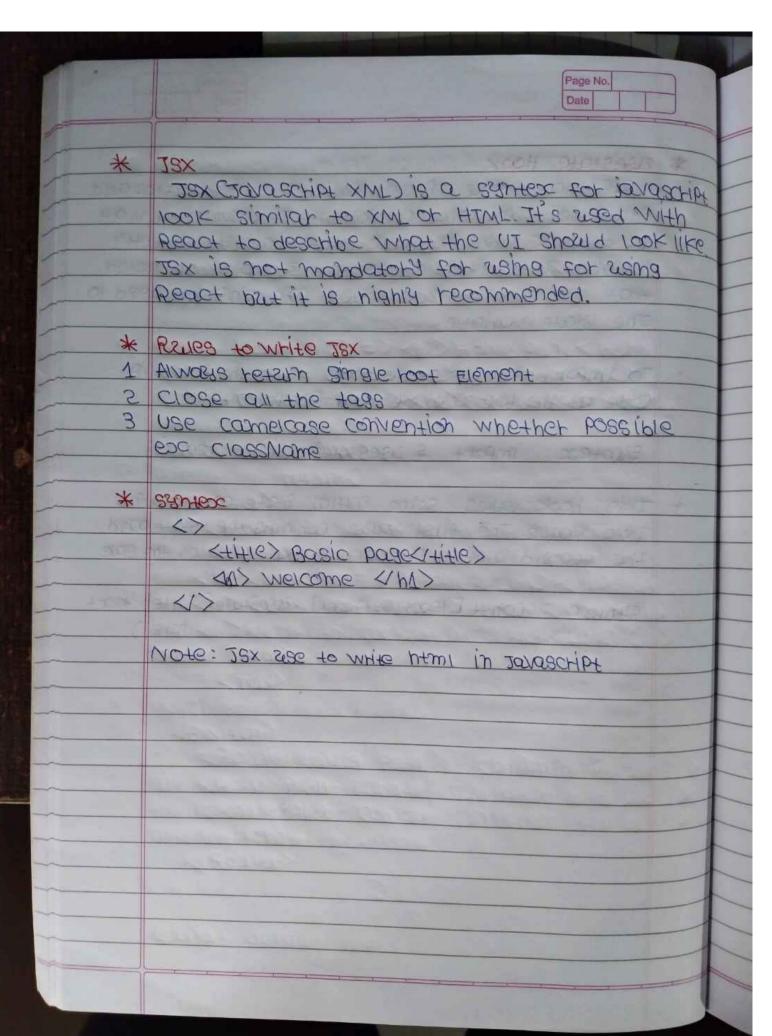
Step 5: To tech this application type the following command in terminal

· npm start



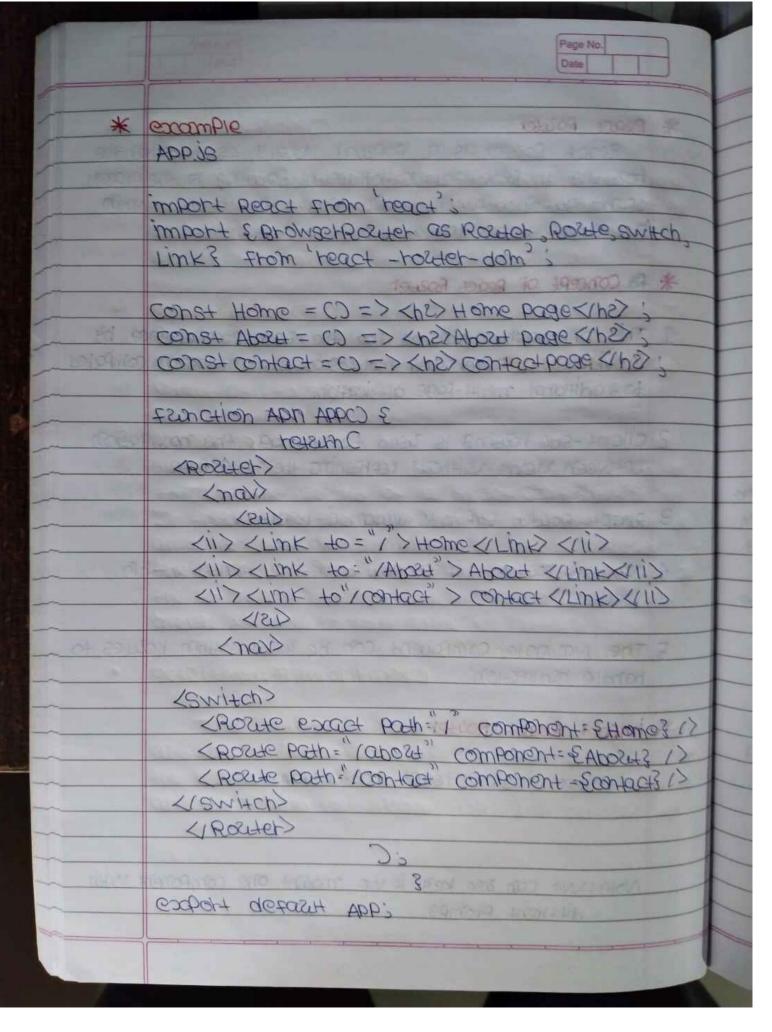
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1	-	export detasut tranction Novbat (brobs) &
# H H H		retain ( <a href="mailto:square;"></a>
-		3
	*	Phops types There are four Props types which is given below.  1 array 2 String 3 Number 4 boolean
	6	we can set prop type using given syntex  we man use in component file like Navbar. is  ex  Navbar. Proptypes = {
1		title: Proprignes. String.  Contect_no: Proprignes. namber.
		3





	Page No.
*	React Roller is a popular library used to handle rolling in React application. React Rolling is the process of navigation between diffrent pages or views within a single page application.
*	ta Concept of React Rostlet
1	This approach enhances the the 21set excepetience by providing a faster and more seamless interaction compated to traditional matti-page application.
S	client-side touting is used to manage the navigation between views without refreshing the ntire page.
3	React Rositet supports denamic touting.
4	Nested toethers allow you to define toutes within toethes.
5	The 'Navigate' component con be used within routes to handle redirection.
*	import React Rollter
	norm install react-roater-dom
	Note: Ne can use key it we mount one component with

difficul promps.



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# React component literade rechniques

litecacie of a react component statement interest interest interest of a react component state and independent stages of their lifecacies. There are a stages in the stages of their lifecacies. There are a stages in the stages of their lifecacies. There are a stages in the stages of their lifecacies. There are a stages in the stages of their lifecacies.

## 1 Initialization

It is the first state of a React component's lifecycle. The component is defined with the default phops and it's initial state in the constructor of the component. This phase occurs only once in the lifecycle before the cheation of the component or any props thom the payent is passed into it and consists of the following method which are called in the same order.

## COURTHSCHOLCS

This method is called before the Component is mounted. This is only used for two perposes: In Highligh in Jocal state by assigning an object to this state on and binding the event handler method to an instance.

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## 36+D6t089T6+Ob8C)

This method can be used to define the default value of this props. Also we need to in Haire the Cheateractclass before writing anything else for Essing these method.

## 3 et miastatecs

This method can be used to define the detaelt value of this state.

# S Wording

It is the second of a React Component's infearce In this stage the component is modinted on the Dom and rendered for the first time on the webpase affect the component has been initialized. It consists of the following methods which are called in the same order.

## BCFD 64jv69340F6240Mb40A2451600 18 400

this method is invoked on the initial mount and any subsequent update hight before calling the render method. To subdate the state it returns an object and to subdate mothing it returns now

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31916	toot will was signified a coch compared
1904	when called this method examines this phase and
0.1	this state and retains one of the following types:
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17 6-93	tendetco method. Non we can perform any gading
	and alling with the row.
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	COMPONENTIAL
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N. W.	setStateC) is called inside this method.
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### 3 UPdQLITB

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The is the third stage of a react components and handle and handle of the components and handle of the highestiches of the components and handle of handle handle handle handle of the components and handle of the components are the components.

#### Costably and modern based

This method is invoked before the render method when new props or states are being received and the Dom is decided to be aparted by the Component The Component will aparte if this method retains taken the component will aparte if the method retains

The code inside the tender method will be invoked again if should component updates retain false.

#### acts napshat Betareaplacteca

this method invoked just before the DOM is supdated with the latest rendered output It helps to capture information before it is potentially changed from the DOM.

Page No.	
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## COMPONENHOIGUPACHECO

This method is invoked immediately after the component is updated, we can use this method to execute a block of code once after the rendering. It is not called for the initial rendering

## CompohentwillUPdateC) Commonwhile

This method is invoked when new props at states are being received isset before rendering of the component. It can be used to prepare before an apaste occars. It should component update of the state false it will not be called.

## Component will Recieve Propsco

This method is invoked before new Props are received by a mornted Component. To Perform State thansition by using the this. Setstate() method, we should compare this. Props and nearthops if we want to appare the state in response to prop changes. Read only call this method it some of the component's Props are updated It doest all this method with initial are updated It doest all this method with initial

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074-5	This is the final Phase of the lifecycle of the	
77 60	component which is the Phase of Eurmounting the	
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	the solo member of this phase	CH.
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*	React Hooks
	React Hooks Provide Franctional components with the ability to use state and other React features without having to white a class.
	Note: Hooks copy, the used with does combounded
*	Type of React Hooks exact 459 8
	State Hooks
4	Ref Hooks  Effect Hooks
6	Resource Hooks
	Other Hooks
	State Hooks stokes and Provide acress the Intormation
ì	dece suscestate Hook: Suscestate Hook Provides state variable with direct subtate access.
İ	with direct attitute access  with direct attitute access  were variable  with the appare logic in redacet  franction
1	Const [coant, setcoant] = 21sestate(a)

