<div align="center">

Assignment–2
React-components-state-props

</div>

1- What is React Js?

React is a JavaScript library created by Facebook

React is a User Interface (UI) library

React is a tool for building UI components

2- What is NPM in React Js?

npm is an abbreviation used for the **n**ode **p**ackage **m**anager. It is a package manager for JavaScript. It is the default package manager that comes with NodeJS when you install it. It consists of a command-line interface and an online database of public packages and private packages that are paid which is called the npm Registry.

3- What is Role of Node Js in react Js?

NodeJS is a framework of JavaScript which is mainly used for working with the backend of our application or building the backend using JavaScript, whereas ReactJS is a JavaScript front-end library. It is mainly used for building the user interface or the frontend of our application.

4-What is CLI command In React Js?

Command Line Input

CLI is a command line program that accepts text input to execute operating system functions.

In the 1960s, using only computer terminals, this was the only way to interact with computers.

In the 1970s an 1980s, command line input was commonly used by Unix systems and PC systems like MS-DOS and Apple DOS.

Today, with graphical user interfaces (GUI), most users never use command-line interfaces (CLI).

However, CLI is still used by software developers and system administrators to configure computers, install software, and access features that are not available in the graphical interface

CLI stands for:

- Command Line Interface
- Command Line Interpreter
- Command Line Input

Examples

Windows Example

```
C:\>npm install mysoftware
```
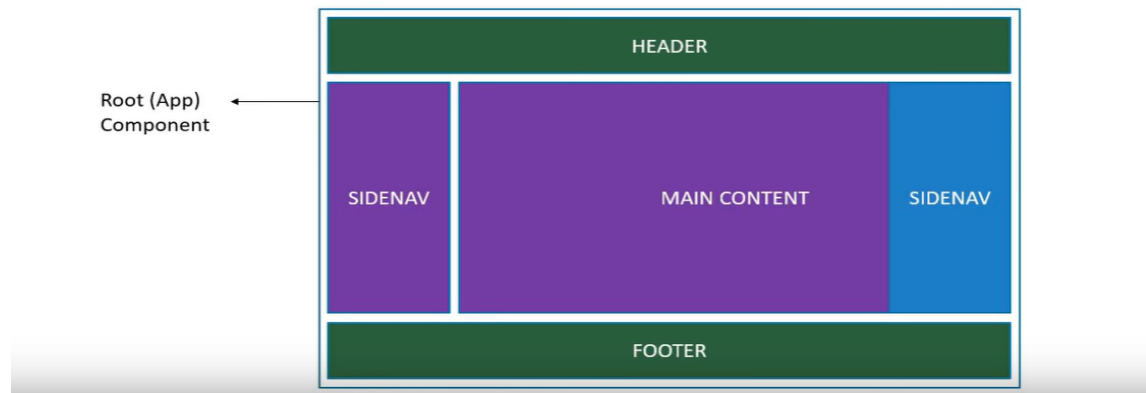
5-What is Components in React Js?

Components are independent and reusable bits of code. They serve the same purpose as JavaScript functions, but work in isolation and return HTML.

Components come in two types, Class components and Function components, in this tutorial we will concentrate on Function components.
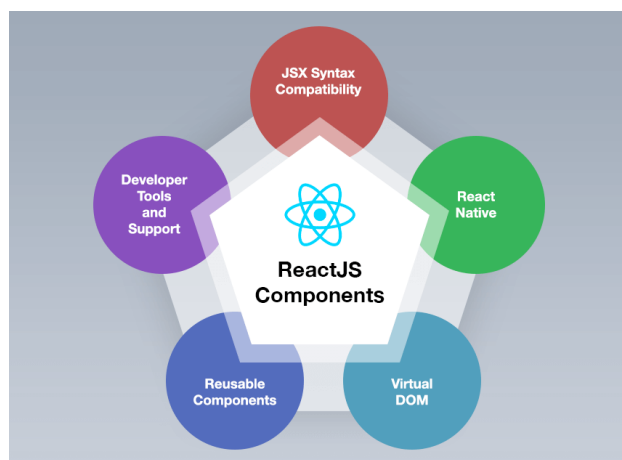
6-What is Header and Content Components in React Js?

7-How to install React Js on Windows, Linux Operating System? How to install NPM and How to check version of NPM?

How to Install ReactJS on Windows?

Installation Reactjs on Windows:

Step 1: Install Node.js installer for windows. Click on this link. Here install the LTS version (the one present on the left). Once downloaded open NodeJS without disturbing other settings, click on the **Next** button until it's completely installed.
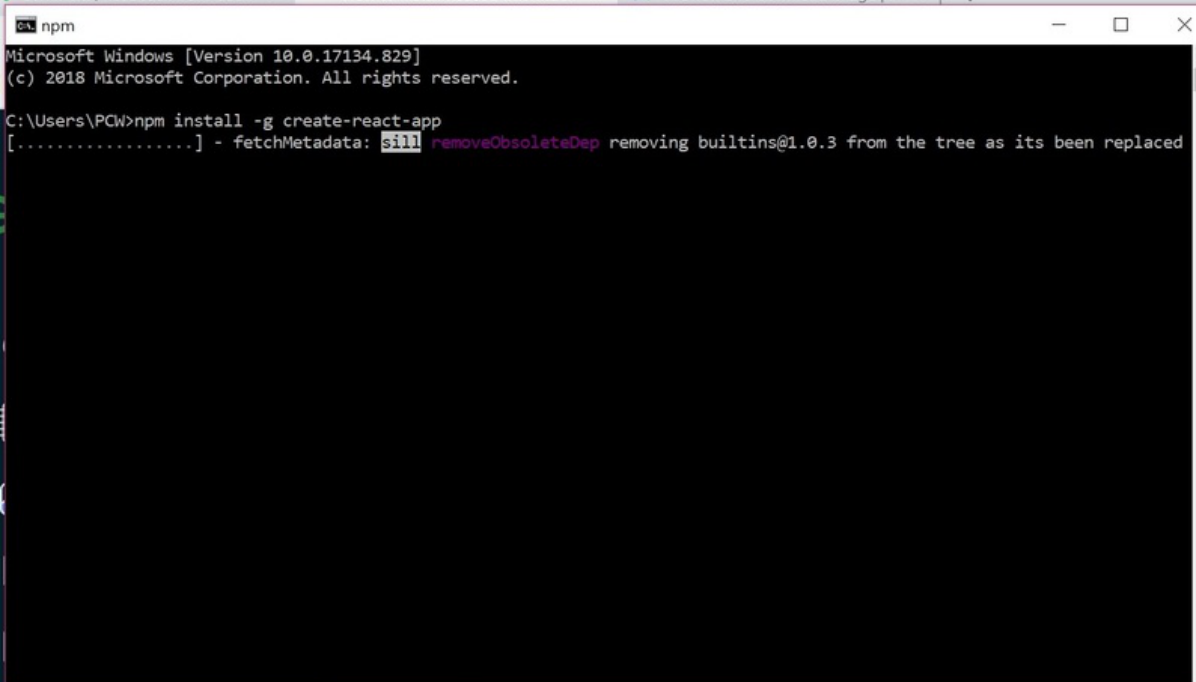
Step 2: Open command prompt to check whether it is completely installed or not type the command –>

```
node -v
```


Step 3: Now in the terminal run the below command:
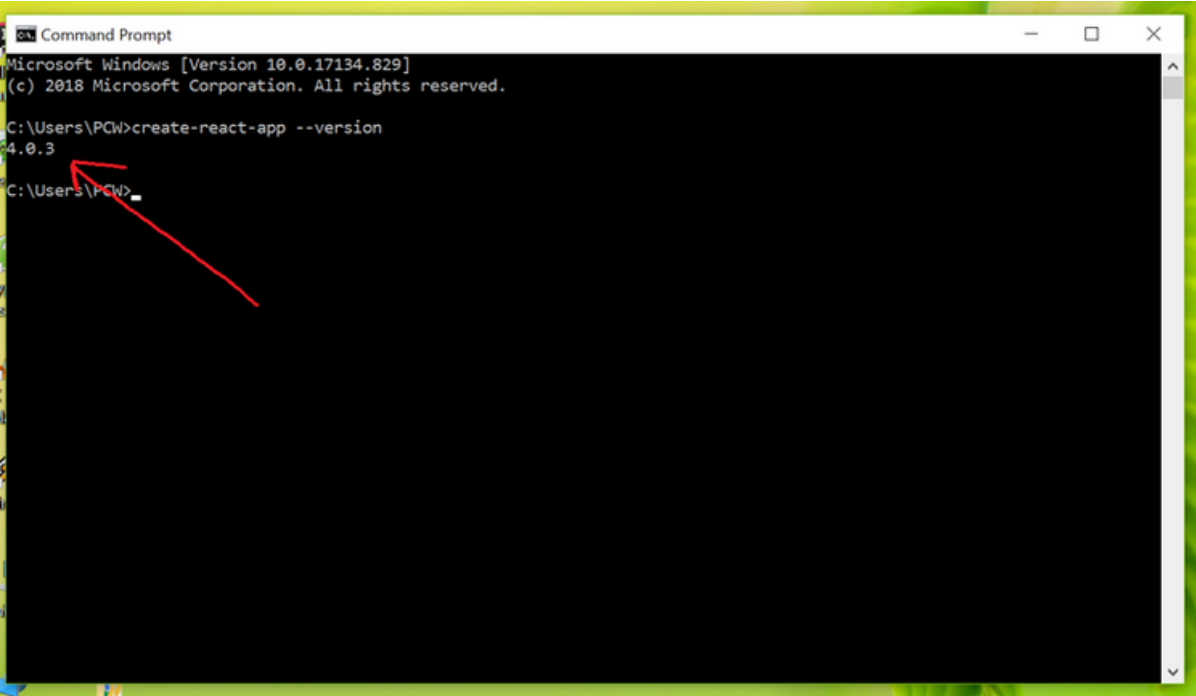
```
npm install -g create-react-app
```

It will globally install react app for you. To check everything went well run the command

```
create-react-app --version
```

Step 4: Now Create a new folder where you want to make your react app using the below command:

```
mkdir newfolder
```

```
cd newfolder (your folder name)
```

Step 5: Now inside this folder run the command →

```
create-react-app reactfirst YOUR_APP_NAME
```

Step 6: Now open the IDE of your choice for eg. Visual studio code and open the folder where you have installed the react app **newfolder** (in the above example) inside the folder you will see your app's name **reactapp** (In our example). Use the terminal and move inside your app name folder.Use command **cd reactapp** (your app name)

Step 7: To start your app run the below command :

```
npm start
```

Getting Started with React: Installing React on linux

I will advise you install react through your terminal. Using the following commands for Ubuntu user:

1. sudo apt install nodejs

this above command, installs nodejs on your machine, you can run "node -v" to check the version of node installed on your system.

2. sudo apt install npm

npm is the package manager for the **Nodejs**. It puts modules in place so that **node** can find them, and manages dependency. It is extremely configurable to support a wide variety of **use** cases. Most commonly, it is used to publish, discover, install, and develop **node** programs. The above command then installs npm on your machine. You can run "npm -v" to check the version of npm installed on your system.

After installing the node and npm, to create an app, the following command is needed to download the necessary dependencies your app need to run. Such as: React, ReactDom etc.

3. npx create-react-app my-app

once this is done, change directory into the app. **NB: my-app is the name of the app you want to create.**

cd my-app

npm start

Welcome to React. Enjoy your learning!!!

How to install NPM and How to check version of NPM?

The command to check your npm version is `npm -v` or `npm --version`.

Type it in your terminal and you should see the following output:

```
$ npm -v8.1.0# or$ npm --version8.1.0
```

Find the version of an installed npm package

The version of npm packages installed on your computer can be

found by running the `npm list` command.

First, navigate to the root directory of your project, then run the `npm`

`list` command.

You should see the output below in your terminal:

```
$ npm list
```

```
n-app@1.0.0 /Users/nsebhastian/Desktop/DEV/n-ap├── cors@2.8.5
```

```
├── express@4.18.1

├── gulp@3.9.1

├── jest@28.1.0

├── mocha@10.0.0

└── vue@2.6.14
```

Check the version of the installed `npm` package globally

The `-g` flag is used to check the global packages. The output will be the same as the output of the `npm list` command, except that it will only show the global packages.

```
npm list -g
```

8-How to check version of React Js?

React is a Javascript front-end library that is used to build single-page applications (SPA). If we want to know which react version we are using to build a project then there are some easy ways to find it.

In this article, we are going to discuss three ways to find out the React version.

1. Using package.json file
2. Using command line
3. Using version property of default import from React

Using package.json file

The package.json contains metadata about our project. It is created by default when we create our React project. We can create a react app using the command mentioned below.

```
npx create-react-app name_of_the_app
```

Using command line

We can easily check the React version by using the command mentioned below on our command line.

```
npm view react version
```

The output demonstrating the use of the above command on the command line is mentioned below.

```
C:\Users\shiva\OneDrive\Desktop\react-version-demo>npm view react version
17.0.2
```

9- How to change in components of React Js?

To change the state of the React component is useful when you are working

on a single page application, it simply replaces the content of the existing

component for the user without reloading the webpage.

Syntax:

```
this.setState({ stateName : new-state-value})

this.setState(st => {

   st.stateName = new-state-value

})
```

index.js

import React from 'react'

import ReactDOM from 'react-dom'

import App from './App'

ReactDOM.render(<App />, document.querySelector('#root'))

App.js

```jsx
import React, { Component } from 'react'

class App extends Component {

constructor(props){

    super(props)

    // Set initial state

    this.state = {msg : 'Hi, There!'}

    // Binding this keyword

    this.handleClick = this.handleClick.bind(this)

}
```

```
handleClick(){

        // Changing state

        this.setState({msg : 'Welcome to the React world!'})

}


render(){

        return (

        <div>

                <h2>Message :</h2>

<p>{this.state.msg}</p>
```

```
        {/* Set click handler */}

        <button onClick={this.handleClick}>

        Click here!

        </button>

    </div>

    )

}

}


export default App
```

Output:

Message :

Hi, There!

[Click here!]

10-• Create Increment decrement state change by button click?

```
import React, {useState} from "react"
import {toast, ToastContainer} from 'react-toastify';




let style_1={
   margin:"20% 35%"
}
let style_2={
   margin:"10% 40%"


}


function Change_Btn() {
   let[ number, setnumber]=useState(0)
   return (
 <div style={style_1}>
   <h1 style={style_2}>{number}</h1>
   <button type="button" className="btn btn-primary"
onClick={()=>{setnumber(number+1)}}>   INCREMENT</button>
   <button type="button" className="btn btn-primary ms-5"
onClick={()=>{setnumber(0)}}>RESET</button>
   <button type="button" className="btn btn-primary ms-5"
onClick={()=>{if (number>0){setnumber(number-1)} else{
     toast.warning("can't go in minus(-)");setnumber(0)
   }}}> DECREMENT</button>
   <ToastContainer/>
```

```
        </div>

      )
   }

export default Change_Btn
```