

Week 4:

## 1. How to write your first React component

Tasks: 1. Create a simple functional component named Greeting that returns "Hello, World!" within a tag. 2. Modify the Greeting component to display "Hello, React!". 3. Create a Gallery functional component to display an image. 4. Add Greeting to the Gallery component and display the image and greeting. 5. Write a component called Profile which displays a hardcoded user's name and age.

```
import React from 'react'

const Greeting = () => {
  return (
    <div>
      <h1>Hello World!</h1>
    </div>
  )
}

export default Greeting
```

```
import React from 'react'

import logo from '../Assets/logo192.png'
import Greeting from './Greeting'

const Gallery = () => {
  return (
    <div>
      <Greeting/>
      <img src={logo}></img>
    </div>
  )
}

export default Gallery

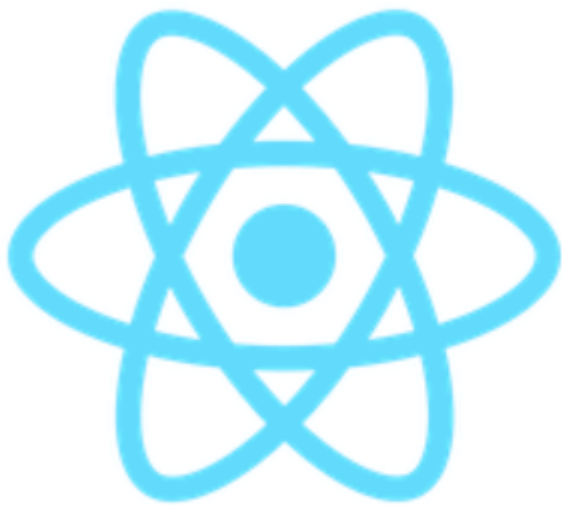
import React from 'react'

const Profile = () => {
  const name="Ajay";
  const age=19;
  return (
    <div>
      <h1>{name}{age}</h1>
    </div>
  )
}
```

```
)  
}  
  
export default Profile
```

← → ↻ ⓘ localhost:3000

# Hello World!



## Ajay19

### 2. When and how to create multi-component files

Tasks: 1. Create a file named UserComponents.js and inside it, define two components: UserName and UserAge that display hardcoded names and ages respectively. 2. Export both UserName and UserAge from UserComponents.js. 3. In a separate file, import and use both UserName and UserAge components using named imports. 4. Convert UserAge into a default export and modify the importing file to accommodate the change. 5. Split UserName and UserAge into separate files and adjust your imports.

```
import React from 'react'  
import Username from './Username'  
import UserAge from './UserAge'  
  
const UserComponen = () => {
```

```

    return (
      <div>
        <Username/>
        <UserAge/>
      </div>
    )
  }
}

export default UserComponen
import React from 'react'

const Username = () => {
  return (
    <div>
      <h1>Ajay</h1>
    </div>
  )
}

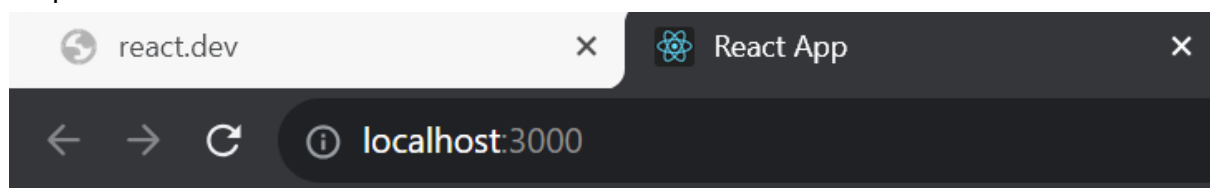
export default Username
import React from 'react'

const UserAge = () => {
  return (
    <div><p>19</p></div>
  )
}

export default UserAge

```

Output:



# Ajay

19

3. How to add markup to JavaScript with JSX Tasks:

1. Create a component that displays an unordered list (

) of 3 favorite fruits. 2. Update the above component to display a picture () of each fruit next to its name. (Use hardcoded image URLs for now.) 3. Create a component WebsiteLink that displays a hardcoded URL in an anchor () tag. 4. Make a JSX component that mimics a simple blog post with a title, content, and author. (All hardcoded.) 5. Design a Footer component with hardcoded copyright information using JSX.

```
import React from 'react'

const Fruits = () => {
  return (
    <div>
      <ul>
        <li>Apple<br/></img></li>
        <li>Mango<br/><img
src='https://5.imimg.com/data5/SELLER/Default/2023/5/311350790/HP/RW/VW
/190019658/alphonso-mango-500x500.jpeg'height={30}width={30}></img></li>
        <li>Pomo<br/><img
src='https://images.healthshots.com/healthshots/en/uploads/2021/09/2718
4641/pomegranate-1600x900.jpg'height={30}width={30}></img></li>
      </ul>
    </div>
  )
}

export default Fruits

import React from 'react'

const Weblink = () => {
  return (
    <div>
      <a href='https://www.youtube.com'>Click</a>
    </div>
  )
}

export default Weblink

import React from 'react'

const Blog = () => {
  const post={
    title:"Book",
    content:"Summa",
  }
```

```

        author:"Sri"
      }
    }
    return (
      <div>
        <h4>{post.title}{post.content}{post.author}</h4>
      </div>
    )
  }
}

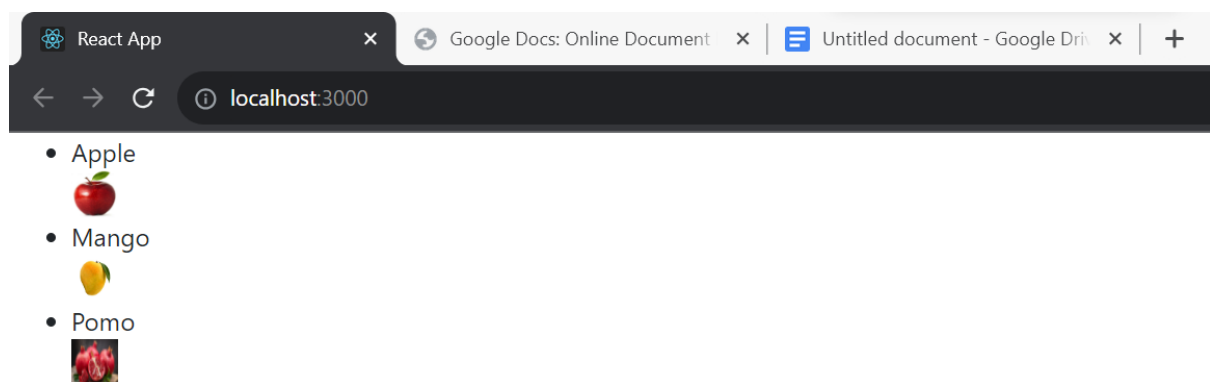
export default Blog
import React from 'react'

const Footer
= () => {
  return (
    <div>
      <h1>This Content belongs to Sri
<span>&copy;</span>Copyrights</h1>
    </div>
  )
}

export default Footer

```

Output:



[Click](#)

BookSummaSri

This Content belongs to Sri ©Copyrights

#### 4. JavaScript in JSX with Curly Braces

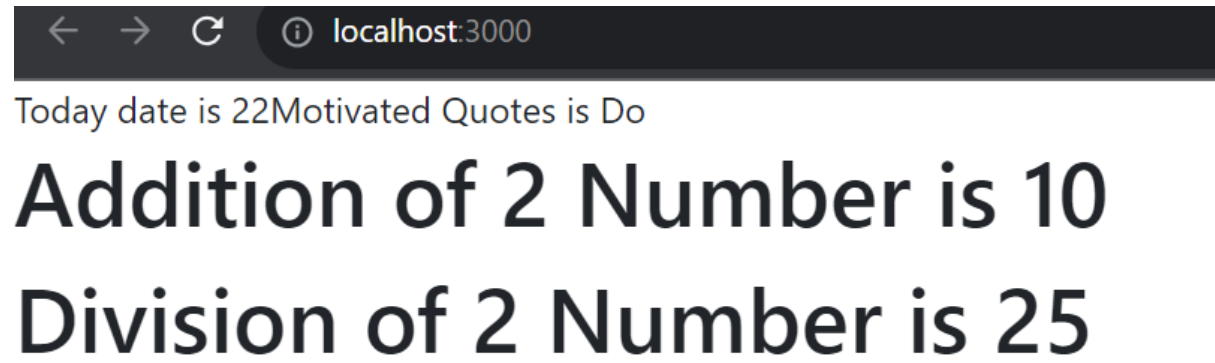
Tasks: 1. Display today's date in a component using the JavaScript Date object. 2. Create a component that displays a random quote from a hardcoded list of quotes. 3. Write a component called MathResult that displays the result of a simple arithmetic operation (e.g., addition) of two hardcoded numbers. 4. Create a component that displays the word count of a hardcoded paragraph. 5. Create a component that calculates and displays the product of two hardcoded numbers.

```
import React from 'react'
const date = new Date();
const today=date.getDate();
console.log(today);
const Today = () => {
  const quotes=["well", "Do", "ur", "Works"];
  let ran=Math.floor(Math.random()*3);
  let print=quotes[ran];
  return (
    <div>
      <h>{`Today date is ${today}`}</h>
      <h>{`Motivated Quotes is ${print}`}</h>
    </div>
  )
}
export default Today

import React from 'react'

const Math = () => {
  const a=5;
  const b=5;
  return (
    <div>
      <h1>{`Addition of 2 Number is ${a+b}`}</h1>
      <h1>{`Division of 2 Number is ${a*b}`}</h1>
    </div>
  )
}
export default Math
```

Output:



### 5. Passing Props to a Component

Tasks: 1. Create a Movie component that displays the title, year, and rating of a movie using props. 2. Update the Movie component to have a default prop for rating as "Not Rated". 3. Design a Button component that takes in a label prop and displays the label on the button. 4. Make a UserProfile component and pass an object containing user details as props and display them. 5. Develop a Modal component that accepts and displays a title and some content passed as props

```
import React from 'react'
import ButtonCm from './ButtonCm'
import { UserPro } from './UserPro';

const Movie = () => {
  const movie={
    tit:"Non",
    year:"2040",
    rate:"Not rated"
  };
  const profile={
    name:"Ajay",
    role:"Developer",
    spec:"Full"
  };
  const click="Done";
  return (
    <div>
      <h5>{`Movies details are ${movie.tit} ${movie.rate}
${movie.year}`}</h5>
      <ButtonCm toBut={click}/>
      <UserPro det={profile}/>
    </div>
```

```

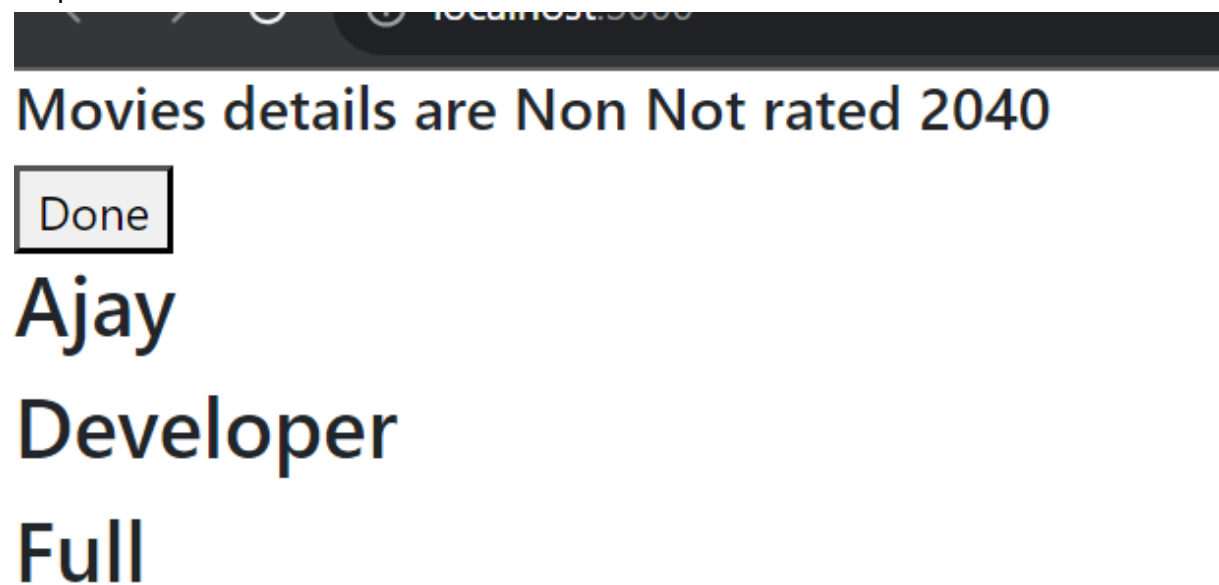
    )
  }
  export default Movie
  import React from 'react'

  export const UserPro = (props) => {
    return (
      <div>
        <h3>{props.det.name}</h3>
        <h3>{props.det.role}</h3>
        <h3>{props.det.spec}</h3>
      </div>
    )
  }
  import React from 'react'
  const ButtonCm = (props) => {
    return (
      <div>
        <button >{props.toBut}</button>
      </div>
    )
  }

  export default ButtonCm

```

Output:





## 6. Conditional Rendering

Tasks: 1. Design a UserStatus component that displays “Online” or “Offline” based on a isOnline prop. 2. Write a component AgeCheck that displays “Adult” or “Minor” based on an age prop. 3. Create a Loading component that either displays “Loading...” or content based on a isLoading prop. 4. Make a Notification component that conditionally displays a message if a message prop is provided. 5. Design a Feedback component that displays feedback in either green (positive) or red (negative) based on a type prop

```
import React from 'react'
import Greeting from './components/Greeting'
import Gallery from './components/Gallery'
import Profile from './components/Profile'
import UserComponen from './components/UserComponen'
import Fruits from './components/Fruits'
import Weblink from './components/Weblink'
import Blog from './components/Blog'
import Footer from './components/Footer'
import Today from './components/Today'
import Math from './components/Math'
import Movie from './components/Movie'
import Userstatus from './components/Userstatus'
import Agecheck from './components/Agecheck'
import Loading from './components/Loading'
import Feedback from './components/Feedback'
const App = () => {
  let isOnline="online";
  if(isOnline=="online")
  {
    isOnline="online"
  }
  else{
    isOnline="offline";
  }
  let isAge=19;
  let isAgePrint="";
  if(isAge<=18)
  {
    isAgePrint="Minor"
  }
  else{
    isAgePrint="Adult"
  }
  let content="Learning Mern Stack";
  let contentPrint="";
  if(content.length==0)
```

```

    {
      contentPrint="Loading"
    }
    else{
      contentPrint=content
    }
    let type="green";
    if(type=="red")
    {
      type="red";
    }
    else{
      type="green"
    }
    return (
      <div>
        <Userstatus check={isOnline}/>
        <Agecheck age={isAgePrint}/>
        <Loading load={contentPrint}/>
        <Feedback feed={type}/>
      </div>
    )
  }
export default App
import React from 'react'

const Feedback = (props) => {
  return (
    <div>{props.feed}</div>
  )
}

export default Feedback
import React from 'react'

const Loading = (props) => {
  return (
    <div>{props.load}</div>
  )
}

export default Loading
import React from 'react'

```

```

const Agecheck = (props) => {
  return (
    <div>
      <h1>{props.age}</h1>
    </div>
  )
}

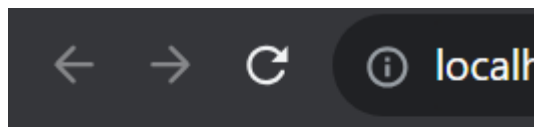
export default Agecheck
import React from 'react'

const Userstatus = (props) => {
  return (
    <div>
      <h1>{props.check}</h1>
    </div>
  )
}

export default Userstatus

```

Output:



# online

# Adult

Learning Mern Stack

green

7. Rendering Lists Tasks:

1. Write a component that takes an array of names as a prop and displays them in a list. 2.
- Create a TodoList component that displays a list of tasks and marks the completed ones. 3.

Design a ProductList component that only displays products with a price less than \$10 using the filter() method. 4. Make a UserList component that takes an array of user objects and displays their names and emails. 5. Create a ShoppingCart component that displays a list of items and their prices. Ensure each item has a unique key.

```
import React from 'react'
import Greeting from './components/Greeting'
import Gallery from './components/Gallery'
import Profile from './components/Profile'
import UserComponen from './components/UserComponen'
import Fruits from './components/Fruits'
import Weblink from './components/Weblink'
import Blog from './components/Blog'
import Footer from './components/Footer'
import Today from './components/Today'
import Math from './components/Math'
import Movie from './components/Movie'
import Userstatus from './components/Userstatus'
import Agecheck from './components/Agecheck'
import Loading from './components/Loading'
import Feedback from './components/Feedback'
import Arrcheck from './components/Arrcheck'
import Todolist from './components/Todolist'
import Products from './components/Products'
import UserList from './components/UserList'
import Shopping from './components/Shopping'
const App = () => {
  const arr=["Ajay","Sri","Ram"];
  const list=arr.map((item)=>
  {
    return(
      <>
      <li>{item}</li>
      </>
    )
  })
  const task=[{
    task:"learn",
    completed:"yes"
  },
  {
    task:"relearn",
    completed:"no"
  },
  ],
```

```

    {
      task:"unlearn",
      completed:"yes"
    }
  ];
const taskItem=task.filter(item=>
item.completed==='yes')
const taskMap=taskItem.map((item)=>
{
  return(
    <>
    <li>{item.task }✓</li>
    </>
  )
})
const pro=[{
  lap:"lenovo",
  price:"5"
},
{
  lap:"dell",
  price:"11"
},
{
  lap:"hp",
  price:"7"
}
];
const proFilt=pro.filter(item=>item.price<10);
const disPro=proFilt.map((item)=>
{
  return(
    <>
    {item.lap+" "}
    </>
  )
})
const user=[
  {
    name:"Ajay",
    email:"21e202@kce"
  },
  {
    name:"Sri",

```

```

        email:"21e251@kce"
    },
    {
        name:"Ragh",
        email:"21e238@kce"
    }
];
const mapUser=user.map((item)=>
{
    return(
        <>
        {item.name +" "+item.email +" "}
        </>
    )
})
const shop=[
    {
        id:0,
        item:"banana",
        price:"10"
    },
    {
        id:1,
        item:"nuts",
        price:"5"
    },
    {
        id:2,
        item:"fruits",
        price:"7"
    }
];
const shopItem=shop.map((item)=>
{
    return(
        <>
        {item.id +" "+item.item+" "+item.price+" "}
        </>
    )
})
return (
    <div>
        <Arrcheck val={list}/>

```

```

        <Todolist val={taskMap}/>
        <Products val={disPro}/>
        <UserList val={mapUser}/>
        <Shopping val={shopItem}/>
    </div>
  )
}
export default App
import React from 'react'

const Shopping = (props) => {
  return (
    <div>
      {props.val}
    </div>
  )
}

export default Shopping
import React from 'react'

const UserList = (props) => {
  return (
    <div>
      {props.val}
    </div>
  )
}

export default UserList
import React from 'react'

const Products = (props) => {
  return (
    <div>
      {props.val}

    </div>
  )
}

export default Products
import React from 'react'

```

```
const Todolist = (props) => {
  return (
    <div>
      <ul>{props.val}</ul>
    </div>
  )
}

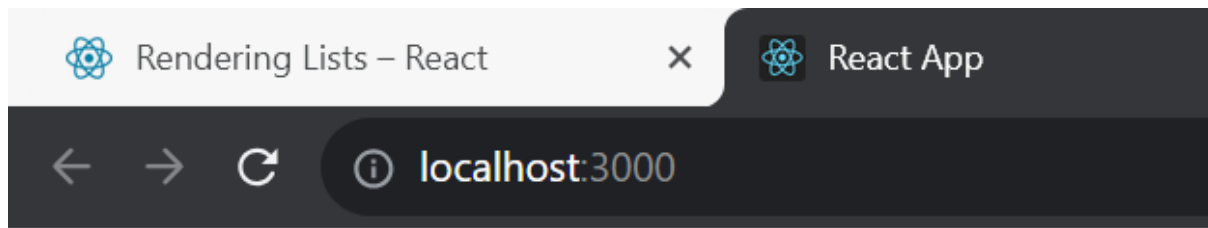
export default Todolist
import React from 'react'

const Arrcheck = (props) => {
  return (
    <div>
      <ul>{props.val}</ul>
    </div>
  )
}

export default Arrcheck
```

Output:





- Ajay
- Sri
- Ram
- learn✓
- unlearn✓

lenovo hp

Ajay 21e202@kce Sri 21e251@kce Ragh 21e238@kce

0 banana 10 1 nuts 5 2 fruits 7

#### 8. Keeping Components Pure Tasks:

1. Convert an impure component that uses `Math.random()` within the render phase to a pure one. 2. Create a pure component Clock that displays the current time and updates every second without causing side-effects during the render phase. 3. Use Strict Mode in an existing application and identify any warnings in the console. 4. Convert a class-based component with side effects in its lifecycle methods to a pure functional component using hooks. 5. Make a pure ProfilePic component that takes a user ID as a prop and fetches the user's profile picture URL from an array without side-effects during rendering.

```
import React from 'react'
import ProfileUser from '../components/ProfileUser';
const App = () => {

const d = new Date();
let text = d.toLocaleTimeString();
  return (
    <div>
      <h1>{text}</h1>
      <>
        <ProfileUser person={{
          imageId: 'lrWQx81',
          name: 'Ajay',
```

```

    }} />
    <ProfileUser person={{
      imageId: 'MK3eW3A',
      name: 'Ajoyy',
    }} />
  </>
</div>
)
}
export default App
import React from 'react'

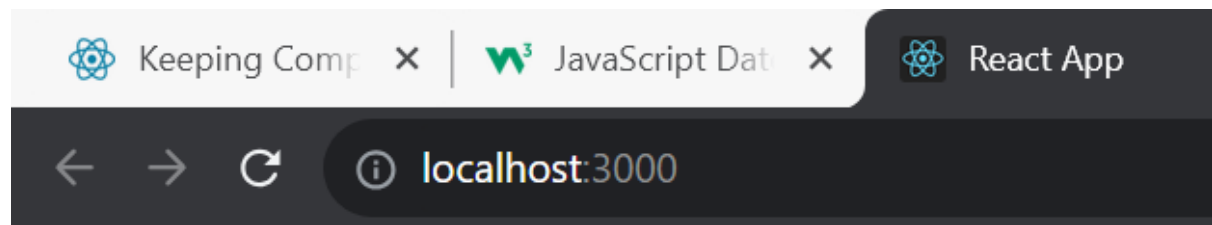
const ProfileUser = ({person}) => {
  function Header({person}) {
    return <h1>{person.imageId}</h1>;
  }
  function Avatar({person}) {
    return (
      <img
        className="avatar"
        //src={getImageUrl(person)}
        alt={person.name}
        width={50}
        height={50}
      />
    );
  }
  return (
    <div>
      <Header person={person}/>
      {/* <Avatar person={person}/> */}
    </div>
  )
}

export default ProfileUser
import React from 'react'
const Today = ({text}) => {
  let hours=text.getHours();
  if(hours>=0 && hours<=6)
  {
    className='night';
  }
}

```

```
else{
  className='day';
}
return (
  <div>
    <h1 id="text">
      {text.toLocaleTimeString()}
    </h1>
  </div>
)
}
export default Today
```

Output:



7:10:18 PM

lrWQx8l

MK3eW3A