**Day 10 React JS 19 Jan. 25**

**Testing:** Testing is use to check bugs or error or defects in your application.

In you are running using any technologies by default your are testing the application working or not.

function add(a,b) {

var sum = a+b;

return sum;

}

Testing mainly divided into two types.

Black box testing

Input--------🡪Process----🡪 Output

White box testing

Input--------🡪Process----🡪 Output

Unit testing : unit testing is type of white box testing which help to test function functionality working or not. Unit means smallest code which work independently. That code generally we write inside function or method or module.

If we want to do unit testing for UI technology JavaScript provided lot of pre-defined library or framework which help do unit testing.

**Jasmine**

**Mocha**

**JEST**

For Plan JavaScript if we want to do unit testing generally preferable Jasmine.

For Node JS application we can use Mocha with Chai library.

For Angular application : Angular internally use Jasmine with Karma (test runner).

For React JS Application: JEST by default configure with React JS application.

JEST is a popular JavaScript testing framework provided by Facebook.

This testing framework generally we use to test React JS Component.

**npx create-react-app react-testing-app**

cd **react-testing-app**

npm install @testing-library/jest-dom -D

npm install @testing-library/react -D

test() : this function is use to do the testing for React Components.

We can write more than one test function to test React Component functionality

Test() takes 2 parameter 1st parameter string and 2nd parameter as callback().

Custom hook

We can use hook with functional components

useState

useReducer

useEffect

useEffect(callback,[])

useConext

useDispatch

useSelector

useRef

useMemo

useNavigate

generally if we need some to do re-usability then we can create custom or user defined hook. All custom hook must start with pre-fix use followed hook name.

useToggle() hook this hook responsible to hide and show the content other components.

useForm() : which help to do some validation for all generic forms.

useFetch() / useGet() : which help to consume rest api.

these hook logic we can use in more than one components.

**npx create-react-app react-custom-hook**

**cd react-custom-hook**

let [n,setN]=useState(0);

useState is a pre defined function which takes initial value and it return two value as 1st as variable name and 2nd as function.