**Final assessment - full stack**

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Question 1 –

part 1 -

1)The function code is taking in a state value then adding 1 to it if an action type 'increment' is submitted then returning the new state which is the initial state having had the action implemented on it.

In the above code Is used useState hook to create and update a state in a function. It’s in react so I had to import it from react. I also had to import from redux which is the state management library that I'll be using.

2) To reduce the state value by 1, the code would read

**value:state.value-1**

instead of +1.

3) to reset the state, you would use

**this.setState**

part 2

1)A variable is being set using 'let' and the values and useState is being used to set the state of the variable data.

if a student is added to the number in the class room, when you click the button it will add to the student count.

2)

a)

**Const dispatch=useDispatch()**

**Const studentCount=()=>{**

**return {**

**Type:”studentCount”**

**Payload: { ‘in attendance’}**

**}**

**}**

b- **<button onClick= {() =>dispatch(studentCount)()} student count </button>**

c) to update the state with the result of the action you would use a reducer and to take in the action and new state.A reducer function is required that will return data when triggered by an action type.

**Const myReducer=(state,action)=> {**

**If (action.type===’setStudentCount’){**

**Return[studentCount:action.payload]**

**}**

**else{**

**Return state;**

**}**

**}**

part 3

1. The change of code is changing the initial value of the state by adding the action of the payload.

2.**<button onClick= {() =>dispatch(studentCount)()} increment </button>**

**3.** I think figure 5 is best suited ensure that the increment action updates as the correct code to use is

**value:action.payload**

Algorithms 1

**Function isAPalindrome(str) {**

**var len=str.length;**

**for (var i=0;**

**i< len/2;**

**i++)**

**}**

**return false;**

**}**

**)**

**return true;**

**}**

It's big O time and space complexity is linear because it contains a for loop which is denoted as O(n). If there was a way of writing this code so that it didn't include a for loop and was not dependent on the input size ie the length of the string then it would have a constant time complexity O(1) which would be more efficient.

Algorithms 2

I'm not sure how to write the code for this but i think that the array needs to be sorted by finding the smallest value first and then swapping it with the element next to it and keep on going until all the elements are in order. This is called selection sort. This could be very slow if n is a very high number. I think it's big O Time and space complexity would be linear as it's dependent on the size of n O(n).

i think the code would look something like

function missingNumber(arr){

let n=arr.length

for(

if i<n