/* All following exams please using Javascript only 20241220 */

1.

```
/**
There is an array, each item has such format:
{firstName: 'xxx', lastName: 'xxx', customerID: 'xxx', note: 'xxx', profession: ‘xxx’}
lastName, note can be empty, customerID can only be a set of digital numbers.
profession can only have ‘student’, ‘freelancer’, ‘productOwner’, ‘engineer’ or
‘systemAnalytics’.
**/

/**

Q1. Please follow the principle (‘firstName’ + ‘lastName’ + ‘customerID’) to sort this
array and print it out.

**/

function sortUserName(user) {



}




/**
Q2. Please sort by ‘profession’ to follow the principle.
(‘systemAnalytics’ > ‘engineer’ > ‘productOwner’ > ‘freelancer’ > ‘student’’)
**/

function sortByType(user) {



}
```

2.

```
/** HTML
<div class="container">
  <div class="header">5/8 外出確認表</div>
    <div class="content">
      <ol class="shop-list">
    <li class="item">麵包</li>
    <li class="item">短袖衣服</li>
    <li class="item">飲用水</li>
    <li class="item">帳篷</li>
      </ol>
      <ul class="shop-list">
    <li class="item">暈車藥</li>
    <li class="item">感冒藥</li>
    <li class="item">丹木斯</li>
    <li class="item">咳嗽糖漿</li>
      </ul>
    </div>
  <div class="footer">以上僅共參考</div>
  </div>
**/

/** CSS
.container {
  font-size: 14px;
}
.container .header {
  font-size: 18px;
}
.container .shop-list {
   list-style: none;
   margin-left: -15px;
}
.container .shop-list li.item {
   color: green;
}
.container .shop-list .item {
  Q1. /* Explain why does this color not works, and how to fix make it work on 1st list */
   color: blue;
}

 Q2. /* Write styling make every other line give background color to next one */

**/
```

3.

```
/**

let items = [1, 1, 1, 5, 2, 3, 4, 3, 3, 3, 3, 3, 3, 7, 8, 5, 4, 9, 0, 1, 3, 2, 6, 7, 5,
4, 4, 7, 8, 8, 0, 1, 2, 3, 1];
Please write down a function to console log unique value from this array.

**/

function getUniqueNumber (items) {





}
```

4.

/** What is **virtual DOM** and **what purpose does it aim to solve**?? **/

5.

/** Can you explain about the type of **never** and **what is the differ with void**? **/

6.

/** **What is difference between framework base website and normal website (none framework)** **/

7.

/** Read the code below, please figure out **why after “Switch Person” button clicked**, the tasks state doesn’t update correctly**, and how to make it update as we expected **/**

/** Code block start */

```
import { useState } from 'react';
export default function TaskManager() {
    const [isPersonAlice, setIsPersonAlice] = useState(true);
    return (
        <div>
            {isPersonAlice ? (
                <TaskCounter name="Alice" />
            ) : (
                <TaskCounter name="Bob" />
            )}
            <button onClick={() => {
                setIsPersonAlice(!isPersonAlice);
            }}>
                Switch Person
            </button>
        </div>
    );
}
function TaskCounter({ name }) {
    const [tasks, setTasks] = useState(0);
    return (
        <>
            <h1>{name}'s tasks: {tasks}</h1>
            <button onClick={() => setTasks(tasks + 1)}>
                Complete Task
            </button>
        </>
    );
}
```

/** Code block end */

8.

/** Read about the code below, **please describe the issues** and **how you will be going to improve it **/**

```
/** Code block start */
const TodoList = () => {

    const [todos, setTodos] = useState([
       { id: 1, text: '學習 React', completed: false, studyPoint: 3 },
       { id: 2, text: '建立專案', completed: false, studyPoint: 1 }
    ]);
    const { id, text, studyPoint } = todos;

    const [basePoints, setbasePoints] = useState(3);
    const [sumPoints, setSumPoints] = useState(0);


    const toggleTodo = (id) => {
       const todo = todos.find(t => t.id === id);
       todo.completed = !todo.completed;
       setTodos(todos);
    };

    const handleStudyPointsChange = (e) => {
        basePoints(e.target.value);
        setSumPoints(parseInt(value1) + parseInt(e.target.value));
    };


    return (
       <div>
         <p>課程名稱: {text}</p>
         <label>學習點數: </label>
         <input type="number" value={studyPoint} onChange={handleStudyPointsChange} />
         <p>總累積點數: {sumPoints}</p>
         <button onClick={toggleTodo(id)}>篩選課程</button>
       </div>
     );
}

/** Code block end */
```

9.

```
/** Read about the code below, suggest how to improve the code **/
/** Code block start */
function ParentComponent() {
    const [name, setName] = useState("Naro");
    const [age, setAge] = useState(12);

    return (
      <div>
        <ChildComponent name={name} age={age} />
        <GrandchildComponent name={name} age={age} />
      </div>
    );
  }
  function ChildComponent({ name, age }) {
    return (
      <div>
        <p>Name: {name}</p>
        <p>Age: {age}</p>
        <GrandchildComponent name={name} age={age} />
      </div>
    );
  }
  function GrandchildComponent({ name, age }) {
    return (
      <div>
        <p>Name: {name}</p>
        <p>Age: {age}</p>
      </div>
    );
}

/** Code block end */
```

10.

/** Read about the code below, **achieving that make input element in “SearchInput” to be focused while search button on click **/**

```
/** Code block start */
function SearchButton() {
    return (
        <button> Search </button>
    );
}

function SearchInput() {
    return (
        <input/>
    );
}
export default function Page() {
    return (
        <>
            <nav>
                <SearchButton />
            </nav>
            <SearchInput />
        </>
    );
}

/** Code block end */
```

Developer Code Quality Test

Please fork the code base below and return it as answer, we will read through the code after we got the answer.

URL: https://codesandbox.io/p/devbox/task-management-3xw7ys