1.怎么handle，如果task不清楚的时候，该怎么去做？

1.how to handle the task if the requirement is not clear? what to do with the task and situation?

2.timeline非常紧张的时候，怎么出最后的结果?

2.If the timeline is limit, hard to finish the task in time? what should you to do? and what to do to get it completed?

3.考核工作的积极性和态度。（之前的工作是否认真负责去完成了,自己的项目是否了解？，工作态度和passion）

考核之前的项目描述，具体的负责模块。描述之前的项目遇到的问题，怎么去解决的，结果如何？

3.Can you describe previous project in details? How many people in your team? what are they working on? what feature/module are you working on in details?

Can you describe a difficult problem/issue/bug you even faced? how did you slove it? why? what's the result?

Text, letter

Description automatically generated

Web Oral:

1. What is the difference between rem and px?

Pixel (px) is a commonly used CSS unit on websites. px is not scalable, it is an absolute unit.

Element (em) and Root element (rem) are responsive units interpreted into equivalent pxunit by the browser.

They are relative units. Change in the value of the parent or root element affects the value of relative units.

1. how can you make a form element's backgroup color change when the user is entering text?
2. Refer CSS file and JS file. Change form color. Difference between cookies an local storage

Text

Description automatically generated with medium confidence

1. Reduce page load time. Difference between div and frame

Graphical user interface, text, email

Description automatically generated

1. What are the newly introduced input types in HTML5?
2. What are the five elements that support media content in HTML5?

There are five main elements in HTML5 that support media:

<audio> <video> <source> <embed> <track>

1. How to replace the text in the input box with ellipsis

white-space:nowrap; overflow:hidden; text-overflow:ellipsis;

1. How to use flex layout to center elements vertically as well as horizontally?

Set display: flex to the parent element, and set justify-content: center; and align-items: center; to the child element

1. What are the methods of css horizontal and vertical centering(How to center an element horizontally and vertically), please write as much as possible

水平居中

行内元素: text-align: center

块级元素: margin: 0 auto

position:absolute +left:50%+ transform:translateX(-50%)

display:flex + justify-content: center

垂直居中

设置line-height 等于height

position：absolute +top:50%+ transform:translateY(-50%)

display:flex + align-items: center

display:table+display:table-cell + vertical-align: middle;

1. CSS

Graphical user interface, text, application, email

Description automatically generated

1. JS

Text

Description automatically generated

1. What are the data types supported by JavaScript?

The data types supported by JavaScript are: Undefined Null Boolean String Symbol Number Object

1. What is ‘this’ keyword in JavaScript?

‘This’ keyword refers to the object from where it was called.

1. Difference between “==” and “===”?

“==” checks only for equality in value, whereas “===” is a stricter equality test and returns false if either the value or the type of the two variables are different.

and returns it. The array on which it is called is then altered.

1. What is the difference between .call() and .apply()

The function .call() and .apply() are very similar in their usage except a little difference. .call() is used when the number of the function’s arguments are known to the programmer, as they have to be mentioned as arguments in the call statement. On the other hand, .apply() is used when the number is not known. The function .apply() expects the argument to be an array.

The basic difference between .call() and .apply() is in the way arguments are passed to the function.

1. What is the difference between forEach and map?

ForEach traverses each array element, no return value, Map will generate a new array based on the return value

1. What is Async/Await?

async/await is a new way to write asynchronous code, the previous method has callback function and promise.

1. How to check if an object is an array or not? Provide some code

The best way to find whether an object is instance of a particular class or not using toString method from Object.prototype

1. Given a string, reverse each word in the sentence

For example "Welcome to this Javascript!" should be become "emocleW ot siht !tpircsavaJ"

Text

Description automatically generated

1. How to empty an array in JavaScript?

var arrayList = ['a', 'b', 'c', 'd', 'e', 'f'];

How could we empty the array above?

Ans:

1 arrayList = [];

2 arrayList.length = 0;

3 arrayList.splice(0, arrayList.length);

4 while(arrayList.length) {

arrayList.pop();

}

1. How would you check if a number is an integer?

A very simply way to check if a number is a decimal or integer is to see if there is a remainder left when you divide by 1.

function isInt(num) {

return num % 1 === 0;

}

1. What will be the output of the following code?

|  |  |  |
| --- | --- | --- |
| Problem | Ans |  |
| Text  Description automatically generated | 1undefined | Background pattern  Description automatically generated |
| Text  Description automatically generated with medium confidence | 5 |  |
| Text  Description automatically generated with medium confidence | Reference Error | A function definition can have only one reference variable as its function name |
| Text, letter  Description automatically generated | undefined |  |

React Oral:

1. Difference between Real DOM and Virtual DOM

|  |  |
| --- | --- |
| Real DOM | Virtual DOM |
| 1. It updates slow. | 1. It updates faster. |
| 2. Can directly update HTML. | 2. Can’t directly update HTML. |
| 3. Creates a new DOM if element updates. | 3. Updates the JSX if element updates. |
| 4. DOM manipulation is very expensive. | 4. DOM manipulation is very easy. |
| 5. Too much of memory wastage. | 5. No memory wastage. |

1. What is React

React is a front-end JavaScript library developed by Facebook in 2011.

It follows the component based approach which helps in building reusable UI components.

It is used for developing complex and interactive web and mobile UI.

Even though it was open-sourced only in 2015, it has one of the largest communities supporting it.

1. What are the features of React

Major features of React are listed below:

It uses the virtual DOM instead of the real DOM.

It uses server-side rendering.

It follows uni-directional data flow or data binding.

1. Why is there a need for using keys in Lists?

Keys are very important in lists for the following reasons:

A key is a unique identifier and it is used to identify which items have changed, been updated or deleted from the lists

It also helps to determine which components need to be re-rendered instead of re-rendering all the components every time. Therefore, it increases performance, as only the updated components are re-rendered

1. What do you understand by Virtual DOM? Explain its works

A virtual DOM is a lightweight JavaScript object which originally is just a copy of the real DOM. It is a node tree that lists the elements, their attributes and content as Objects and their properties. React’s render function creates a node tree out of the React components. It then updates this tree in response to the mutations in the data model which is caused by various actions done by the user or by the system. Check out this Web developer course online to learn more about react.

This Virtual DOM works in three simple steps.

Whenever any underlying data changes, the entire UI is re-rendered in Virtual DOM representation

Then the difference between the previous DOM representation and the new one is calculated.

Once the calculations are done, the real DOM will be updated with only the things that have actually changed.

1. How different is React’s ES6 syntax when compared to ES5?

Syntax has changed from ES5 to ES6 in the following aspects:

require vs import

export vs exports

component and function

props

state

1. “In React, everything is a component.” Explain

Components are the building blocks of a React application’s UI. These components split up the entire UI into small independent and reusable pieces. Then it renders each of these components independent of each other without affecting the rest of the UI

1. What is the purpose of render() in React

Each React component must have a render() mandatorily. It returns a single React element which is the representation of the native DOM component. If more than one HTML element needs to be rendered, then they must be grouped together inside one enclosing tag such as <form>, <group>,<div> etc. This function must be kept pure i.e., it must return the same result each time it is invoked

1. What is Props?

Props is the shorthand for Properties in React. They are read-only components which must be kept pure i.e. immutable. They are always passed down from the parent to the child components throughout the application. A child component can never send a prop back to the parent component. This help in maintaining the unidirectional data flow and are generally used to render the dynamically generated data.

1. What is a state in React and how is it used?

States are the heart of React components. States are the source of data and must be kept as simple as possible. Basically, states are the objects which determine components rendering and behavior. They are mutable unlike the props and create dynamic and interactive components. They are accessed via this.state().

1. Differentiate between states and props.

|  |  |  |
| --- | --- | --- |
| Conditions | State | Props |
| 1. Receive initial value from parent component | Yes | Yes |
| 2. Parent component can change value | No | Yes |
| 3. Set default values inside component | Yes | Yes |
| 4. Changes inside component | Yes | No |
| 5. Set initial value for child components | Yes | Yes |
| 6. Changes inside child components | No | Yes |

1. Differentiate between stateful and stateless components

|  |  |
| --- | --- |
| Stateful Component | Stateless Component |
| 1. Stores info about component’s state change in memory | 1. Calculates the internal state of the components |
| 2. Have authority to change state | 2. Do not have the authority to change state |
| 3. Contains the knowledge of past, current and possible future changes in state | 3. Contains no knowledge of past, current and possible future state changes |
| 4. Stateless components notify them about the requirement of the state change, then they send down the props to them. | 4. They receive the props from the Stateful components and treat them as callback functions. |

1. What do you know about controlled and uncontrolled components?

|  |  |
| --- | --- |
| Controlled Components | Uncontrolled Components |
| 1. They do not maintain their own state | 1. They maintain their own state |
| 2. Data is controlled by the parent component | 2. Data is controlled by the DOM |
| 3. They take in the current values through props and then notify the changes via callbacks | 3. Refs are used to get their current values |

1. What are Higher Order Components(HOC)?

Higher Order Component is an advanced way of reusing the component logic. Basically, it’s a pattern that is derived from React’s compositional nature. HOC are custom components which wrap another component within it. They can accept any dynamically provided child component but they won’t modify or copy any behavior from their input components. You can say that HOC are ‘pure’ components.

1. What can you do with HOC?

HOC can be used for many tasks like:

Code reuse, logic and bootstrap abstraction

Render High jacking

State abstraction and manipulation

Props manipulation

1. What are Pure Components?

Pure components are the simplest and fastest components which can be written. They can replace any component which only has a render(). These components enhance the simplicity of the code and performance of the application.

1. What is the significance of keys in React?

Keys are used for identifying unique Virtual DOM Elements with their corresponding data driving the UI. They help React to optimize the rendering by recycling all the existing elements in the DOM. These keys must be a unique number or string, using which React just reorders the elements instead of re-rendering them. This leads to increase in application’s performance.

1. What is Redux?

Redux is one of the most trending libraries for front-end development in today’s marketplace. It is a predictable state container for JavaScript applications and is used for the entire applications state management. Applications developed with Redux are easy to test and can run in different environments showing consistent behavior.

1. What are the three principles that Redux follows? Single source of truth, State is read-only, Changes are made with pure functions

Single source of truth: The state of the entire application is stored in an object/ state tree within a single store. The single state tree makes it easier to keep track of changes over time and debug or inspect the application.

State is read-only: The only way to change the state is to trigger an action. An action is a plain JS object describing the change. Just like state is the minimal representation of data, the action is the minimal representation of the change to that data.

Changes are made with pure functions: In order to specify how the state tree is transformed by actions, you need pure functions. Pure functions are those whose return value depends solely on the values of their arguments.

1. List down the components of Redux.

Redux is composed of the following components:

Action – It’s an object that describes what happened.

Reducer – It is a place to determine how the state will change.

Store – State/ Object tree of the entire application is saved in the Store.

View – Simply displays the data provided by the Store.

In case you are facing any challenges with these React interview questions, please comment on your problems in the section below.

1. How is Redux different from Flux?

|  |  |
| --- | --- |
| Flux | Redux |
| 1. The Store contains state and change logic | 1. Store and change logic are separate |
| 2. There are multiple stores | 2. There is only one store |
| 3. All the stores are disconnected and flat | 3. Single store with hierarchical reducers |
| 4. Has singleton dispatcher | 4. No concept of dispatcher |
| 5. React components subscribe to the store | 5. Container components utilize connect |
| 6. State is mutable | 6. State is immutable |

Coding:

1. The elements in an array are grouped into groups of three and output [1,2,3,4,5,6] ->[[1,2,3], [4,5,6] ]
2. Please program to sort an array in descending order without built-in methods and another array.

Please do not use internal methods that come with JS

For example: input [5, 8, 23, 9, 14] => expect output [23, 14, 9, 8, 5]. (Limit time: 10minutes)

1. Write a program to find duplicate in a string array.

string[] strArray = [ "Sunday", "Monday", "Tuesday", "Wednesday", "Sunday", "Monday" ];

1. Please write a function to implement below requirements in javascript: (Limit time: 10minutes)

a. input is an int array, output is a new int array

b. if input array A = [2, 1, 5, 9], then output array B would be [45, 90, 18, 10]

c. clue: B[0]=A[1]\*A[2]\*A[3], B[1]=A[0]\*A[2]\*A[3], B[2]=A[0]\*A[1]\*A[3], B[3]=A[0]\*A[1]\*A[2]

1. 找到字符串中所有字母异位词 ([438. 找到字符串中所有字母异位词 - 力扣（LeetCode）](https://leetcode.cn/problems/find-all-anagrams-in-a-string/))

Given two strings s and p, return an array of all the start indices of p's anagrams in s. You may return the answer in any order.

An Anagram is a word or phrase formed by rearranging the letters of a different word or phrase, typically using all the original letters exactly once

Example 1:

Input: s = "cbaebabacd", p = "abc"

Output: [0,6]

Explanation:

The substring with start index = 0 is "cba", which is an anagram of "abc".

The substring with start index = 6 is "bac", which is an anagram of "abc".

Example 2:

Input: s = "abab", p = "ab"

Output: [0,1,2]

Explanation:

The substring with start index = 0 is "ab", which is an anagram of "ab".

The substring with start index = 1 is "ba", which is an anagram of "ab".

The substring with start index = 2 is "ab", which is an anagram of "ab".

**Answer**:

1. 无重复字符的最长子串

Given a string s, find the length of the longest substring without repeating characters.

Example 1:

Input: s = "abcabcbb"

Output: 3

Explanation: The answer is "abc", with the length of 3.

Example 2:

Input: s = "pwwkew"

Output: 3

Explanation: The answer is "wke", with the length of 3.

Notice that the answer must be a substring, "pwke" is a subsequence and not a substring.

**Answer**:

1. 最接近的三数之和

Given an integer array nums of length n and an integer target, find three integers in nums such that the sum is closest to target.

Return the sum of the three integers.

You may assume that each input would have exactly one solution.

Example 1:

Input: nums = [-1,2,1,-4], target = 1

Output: 2

Explanation: The sum that is closest to the target is 2. (-1 + 2 + 1 = 2).

**Answer**:

1. Please use recursive algorithm to calculate Fibonacci sequence.

Fibonacci is the rule for a column are as follows: 1, 1, 2, 3, 5, 8, 13, 21, 34… (Limit time: 10min)

Write a function to get the value by the index

1. You are given an array prices where prices[i] is the price of a given stock on the ith day.

You want to maximize your profit by choosing a single day to buy one stock and choosing a different day in the future to sell that stock.

Return the maximum profit you can achieve from this transaction. If you cannot achieve any profit, return 0.

Example 1:

Input: prices = [7,1,5,3,6,4]

Output: 5

Explanation: Buy on day 2 (price = 1) and sell on day 5 (price = 6), profit = 6-1 = 5.

Note that buying on day 2 and selling on day 1 is not allowed because you must buy before you sell.

Example 2:

Input: prices = [7,6,4,3,1]

Output: 0

Explanation: In this case, no transactions are done and the max profit = 0.