**Exam:**

1. **What is the doctype? Is it a html tag?**

* Doctype is not html tag, it is a ‘information’ that tells the browser what document type to expect, or what version of html to use.

1. **New feature in the html 5? list them up as more as possible.**

* <header>, <footer>, <article>, <video>, <section>, <nav>

1. **How many ways you could embed ur css into html?**

* three ways:
  + inline
  + external
  + using <style> tag in <head>

1. **What is block element? What is inline element?**

* Block element: take entire line, such as <div></div>, <p></p> 可以调宽高
* Inline element: only take as much space as the element needed, such as <span></span> 不可以调宽高

1. **What meta tag in the html?**

* Mate tag contains the information of the website, it won’t display on the website, as it contains more detail, such as description, content, title, or name, it has more chance to show up when people google relative words. SEO

1. **What is box model in the css? Draw them and explain.**

* Box model is a kind of layout that wrap around every element, it includes content, padding, border, and margin. Box model has two kind, border box and content box. Border box takes the border width as standard, and content box takes content width as standard.

Border

Padding

content

Margin

Content box

Border

Padding

content

Margin

Border box

1. **Write a html code to create a link when clicked will navigate to google search in a seperate tab.**

* <a href=” <https://www.google.com/>” target=”\_blank” >Google</a>

1. **What are the pseudo-element and pseudo-class?**

* Pseudo-element describes virtual element, to style specific element, such as ::after, ::before ::first-child, ::last-child
* Pseudo-class describes a specific state, such as :hover

1. **What is the different between the display: none and visibility: hidden?**

* Display: none makes the element disappear without taking the space on the page,
* Visibility: hidden will make the element disappear as well, but still use the space on the page

1. **Explain the css specificity. And provide the correct css priority order of this one:**

**<p id=’test’ class=’tested’ style=’font-size: 12px’ >text</p>**

* CSS specificity determine which css rule will applied to an element
* style > id > class > <p>

1. **List some ways you know to center an element?**

* Display: flex, justify-content: center
* Text-align center
* Margin: auto

1. **New features in the ES6? explain as more as u can!!!!!!!!!!!!!!**

* Promise
* Const, let
* Literal template
* Array function
* Class
* Generator

1. **What is the promise? And what is the advantages of the promise compared with call back function?**

* Promise is a way to handle async, it will avoid call back hell that call back function might cause
* It has three status: pending (when the promise just been created), fulfilled, and reject
* Object, produce a value
* Make the code cleaner.

1. **explain me how js handle the async and sync function in the call stack**

* JS is always sync and single-threaded, it will execute one function at a time.
* When there is async function, it will execute async in the background, which is Web apis, and wait in the message queue until the stack is empty, AKA all the sync function has been executed.

1. **explain what the event propagation is? draw the diagram if u can.**

* Event Capturing
* Event Bubbling
* Event stop propagation: to stop the event propagation. 自带的方程？

1. **what is the scope of the arrow function? Does it own this? And what is this point to when it is inside the arrow function?**

* The scope of the arrow is lexi scope. It does not own THIS. This point to its parent when it is inside arrow fcuntion

1. **What is the result of 1+’1’?**

* ‘11’ type is string

**16.**

**let fullname = ‘james’**

**Let obj = {**

**fullname: ‘anna’,**

**prop: {**

**fullname: ‘coco’**

**getFullName: function() {**

**Return this.fullname**

**}**

**}**

**}**

**Let test = obj.prop.getFullName**

**Console.log(test())**

**What is output and why?**

* ‘test’ is under the global, it’s scope is global, so output is ‘james’

**17.**

**let num = 10**

**let name = 'andy'**

**let obj1 = {**

**value: 'first value'**

**}**

**let obj2 = {**

**value: 'second value'**

**}**

**let obj3 = obj2**

**function change(num, name, obj1, obj2){**

**num = num \*10;**

**name = 'paul';**

**obj1 = obj2;**

**obj1.value = 'new value'**

**only**

**}**

**change(num, name, obj1, obj2)**

**console.log(num)**  // 10 no return

**console.log(name)** //’andy’ no return

**console.log(obj1.value)** //first value? New value

**console.log(obj2.value)** //new value? New value

**console.log(obj3.value)** // new value? New value

**What is output?**

**18.**

**1. console.log('a');**

**2. setTimeout(() => console.log('b'), 0);**

**3. console.log('c');**

**What will be displayed？**

* **‘a’**
* **‘c’**
* **‘b’**

1. **What is difference between the call, apply and bind?**

* Call and apply will execute the function immediately, and bind will execute whenever the function is called
* Call separate value by comma, apply using array

1. **Explain ‘this’ in different situation**

* In normal function, ‘this’ point to its own scope
* In array function, ‘this’ points to its owner’s scope
* If there is a Button with onClick event => ‘this’ point at the event.

1. **What is the primitive data type?**

* Primitive data type has only one value and it’s immutable, such as number, string, Boolean, null, undefine, symbol, bigint

1. **what is virtual DOM**

* virtual DOM is a DOM that has everything as real DOM, it is for user to make change on it. Everything is object in virtual DOM

1. **what is one-way data flow in react?**

* The state can only pass from parent component to child component, can’t do the opposite way or between siblings

1. **how to do sibling communication in react without using redux?**

* Using lifting state up, which is event handler.

1. **what is HOC? why we need it?**

* HOC stand for Higher order component, it takes a component inside another component, and return a new component. HOC has a little bit more functionality.
* We as a coder hates rewrite the same component, reusable

1. **could u tell me what is diff between controlled and uncontrolled component?**

* Controlled component is controlled by react component
* Uncontrolled component is controlled by DOM itself which is outside of the component

1. **can we change the state directly? why?**

* Cannot change the state directly, since everything in react is object, only the value can be changed, not the reference(address), which won’t cause re-render, and it’s a tricky bug to track down.

1. **draw a diagram of the lifecycle of react?**

|  |  |  |
| --- | --- | --- |
| **Mounting** | **Updating** | **Unmounting** |
| Constructor |  |  |
| getDerivedStatefromProps | ShouldComponentUpdate |  |
| Render | |  |
|  | getSnapshotbeforeUpdate |  |
| componentDidMount | componentDidUpdate | componentWillUnmount |

1. **redux data flow?**

|  |  |  |  |
| --- | --- | --- | --- |
|  |  | | **store** |
| **action** |  |  | **reducer** |
|  | **view** | |  |

1. **what is reducer?**

* Pure function, change the state based on the matched action
* Receive the action and state, then handle them. Copy and change the state, then give it to the view

1. **why we need the middleware?**

* We can modify the action before it gets to the reducer
* Finish the async before going in reducer
* Pure function

1. **what kind of framework u use for unit test? what is coverage of test?**

* Lighthouse, coverage: Performance, Accessibility, Best Practices, SEO, Progressive Web App
* **Jest.** expect the component run as the way it should beis why we need unit test.
* All the functionality should be covered. 100% coverage.

1. **tell me some approaches u used for increasing the accessiblity?**

* Tabindex, aira-
* Label, live-annocement

1. **how do u improve react performance?**

* Using array function
* reduce img size,
* minify code.
* Lazy loading
* ShouldComponentUpdate: prevent re-rending

1. **tell me something u know about the router? what is switch?**

* it allows user to change section on the same page without refreshing the whole page,
* switch will let router stop searching once it finds the first match path, using with ‘exact’
* browseRouter, route, link, switch,