HTML QUESTIONS

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1. What are the differences between html4 and html5?

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Html means Hyper Text markup language. It is used for making layout of a webpage. Html5 is the newest version of html4.

The difference between them describing below:

1. Html4 Doctype declaration is too long and complicated. On the other hand, HTML5 Doctype declaration is quite simple and easy.
2.) <HTML>, <Body>, and <Head> tags are mandatory while writing a HTML code. On the other hand, <HTML>, <Body>, and <Head> tags can be omitted while writing HTML code.
3. Older version of HTML is less mobile-friendly. But HTML5 language is more mobile-friendly.
4. Html4 can not handle inaccurate syntax. on the other hand, Html5 is capable of handling inaccurate syntax.
5. Html didn't support audio and video without the use of flash player support. Html 5 supports audio and video controls with the use of <audio> and <video> tags.
6. Header, Nav, Aside, Audio, Video, Section, etc are new tag to Html5 version these are not support to html4 version.

==========End ==========

1. What are semantic tags in html? Give me some examples.

Ans: Semantic HTML elements are those that clearly describe their meaning in a human- and machine-readable way. Elements such as <header>, <footer> and <article> are all considered semantic because they accurately describe the purpose of the element and the type of content that is inside them.It introduces the meaning to the web page rather than just presentation. For example, a <p> tag indicates that the enclosed text is a paragraph. This is both semantic and presentational because people know what paragraphs are, and browsers know how to display them.On the flip side of this equation, tags such as <b> and <i> are not semantic. They define only how the text should look (bold or italic), and don't provide any additional meaning to the markup.

Examples of semantic HTML tags include: Header,Section,Nav,Article,Aside,p,h1 Etc.

========End =========

3. What is the purpose of Article, div, section, nav, aside?

Ans:

Article Tag :

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article tag is used to wrap the main contents of webpage page. This content could be a news article, a blog post, forum post etc.

Div Tag:

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div tag is known as Division tag. the perpose of using div tag is to divided the webpage layout into small parts which is needed.div tag is used for grouping HTML elements together and is to apply CSS and web layout on them.

Section Tag:

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The <section> element is a structural HTML element used to group together related elements. When we put content on a web page, it may contain many chapters, headers, footers, or other sections on a web page that is why HTML <section> tag is used.

Nav Tag:

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nav tag should be used for major navigational blocks (menus). You may use more than one nav blocks in an HTML5 page but it is better to use it for the primary menu.

Aside Tag:

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aside tag is used for additional content which may not be required to depict the meaning of the main content. For example, an aside can be used for sidebar, comments section, pull-quotes, glossary, advertisements, footnot

========End ========

4. Why will you use Meta tag?

Ans:

Meta tags are the words that are hidden in code. People who browsing site will just not be able to see them. Meta tags are located inside html's head area.

There are three important parts of Meta tags that can use:

1)title:

The title tag is the title text that is shown in search engine listings.

<title>Title text here</title>

2)description:

description is where you put what your site is all about and what you are offering people. It should not be too long because the search engines only read up to a certain number of words.

<meta name=" description" content=" This is where you put your site's summary"/>

3)keywords:

keywords is basically where you want the words which will take you to the top of the search page to be. Your keywords are important – even if you take away all of the other words, the user should be able to know what your site is all about when they read your keywords.

<meta name=" keywords" content=" SEO, Hacker, Google, Search"/>

Meta tags are important because they impact how your site appears in the SERPs and how many people will be inclined to click through to your website. They will therefore impact your traffic and engagement rates, which can impact your SEO and rankings. Meta tags are an important part of a solid SEO strategy.

The importance of meta tags is that the search engines read them in order to compare if these keywords and the description are related to the visible content. Are your keywords present in your webpage? Is your meta description related to your content and your site's niche? There is a certain weight in your meta tags that the search engines see, that being the reason, wouldn't you want to do everything in order to bring your page a little bit higher in the SERPs? That's exactly the reason why meta tags are important.

========End ========

6. Difference between strong, b, em, i?

Ans:

1. <i> tag: <i> tag is formatting tag of html. It is used to make text italic. It is used when you want to highlight particular word or sentence.

2.tag: tag is used to make text italic. It is used in digital marketing to italic some keyword or an important word which is helpul for digital marketing purposes.

3)The <b> tag highlights in bold a part of the text to make it more obvious for the user. It is a style. It doesn't convey any additional importance.

4)The tag specifies the strong importance of the content. It can be used to highlight seriousness, urgency, or importance. It indicates how something must be understood.

5)The <i> tag displays the text in italic. Like the <b> tag, the <i> tag is also used for presentation purposes. It represents some part of a text in an alternate voice or mood or something that indicates a different quality of text.

The tag specifies the stress emphasis of its contents. It can be used for changing the meaning of a sentence. The text within this tag is also displayed in italic.

========End ========

5. What is the difference between inline, inline-block, and block?

Ans: A block element always starts on a new line, and fills up the horizontal space left and right on the web page. You can add margins and padding on all four sides of any block element — top, right, left, and bottom. examples of block elements are and <p> tags. Inline elements don't start on a new line,

they appear on the same line as the content and tags beside them. Some examples of inline elements are , , and <img> tags.

For using margins and padding, browsers treat inline elements differently. You can add space to the left and right on an inline element, but you cannot add height to the top or bottom padding or margin of an inline element

Inline-block elements are similar to inline elements, except they can have padding and margins added on all four sides.

========End ========

7. What are properties and attributes in HTML?

Ans:

Attribute: Attributes are defined by HTML and are used to customize a tag.

Property: In contrast to the attributes, which are defined in HTML, properties belong to the DOM. Since DOM is an object in JavaScript, we can get and set properties.

When writing HTML source code,

you can define attributes on your HTML elements. Then, once the browser parses your code, a corresponding DOM node will be created. This node is an object, and therefore it has properties.

=========End =========

8. What is a Viewport?

Ans:

A viewport is a term for the visible area of a webpage on a display device. It is used in both code and analog design as a way to refer to the display screen and how layout fits into that screen. In general, this term is used for displays on mobile devices such as smartphones and tablets.

For viewport, websites on mobile devices are not displayed in the same way as on a desktop screen. Users do not have to zoom in but can view the content of a page in a way that matches the small display.

=========End =========

9. Have you used Audio and Video tags? How does they work?

Ans:

Yes, I have used audio and video tag.

Audio Tag working process:

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audio tag allows you to embed audio content in your HTML pages. By default, the browser does not show any controls for this element. Which means the audio will play only if set to autoplay (more on this later) and the user can't see how to stop it, or control the volume or move through the track.

Video Tags:

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The <video> tag is used to embed video content in a document, such as a movie clip or other video streams. The <video> tag contains one or more <source> tags with different video sources. The browser will choose the first source it supports. The text between the <video> and </video> tags will only be displayed in browsers that do not support the <video> element.

There are three supported video formats in HTML: MP4, WebM, and OGG.

=========End =======

10. What is hyperlink in html? what tag and attribute will you use for hyperlink?

Ans:

a hyperlink (or link) is an item like a word or button that points to another location. When you click on a link, the link will take you to the target of the link, which may be a webpage, document or other online content. Websites use hyperlinks as a way to navigate online content.

<a> tag is used with "href" attributed for creating a hyperlink. href attributed contains the address link.

=========End ======

11. What is the difference between HTML elements and tags?

Ans:

1)Tags are the starting and ending parts of an HTML element. They begin with < symbol and end with > symbol. Whatever written inside < and > are called tags.on the other hand Elements enclose the contents in between the tags. They consist of some kind of structure or expression. It generally consists of a start tag, content and an end tag.

2)HTML tags are used to hold the HTML element.HTML element holds the content.

3)HTML tag starts with < and ends with >. But whatever written within a HTML tag are HTML elements.

========End ========

12. What is charset in html? why will you use it?

Ans:

The charset attribute specifies the character mencoding for the HTML document. The HTML5 specification encourages web developers to use the UTF-8-character set, which covers almost all of the characters and symbols in the world!

Because rather than letting the browser auto-detect the charset from the code, we can supply it directly within the code. So occasions where browser making incorrect charset detections can be avoided.

========End ========

CSS QUESTIONS

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1. What Flex layout? Difference Flex and grid layout?

Ans: Flexbox is a CSS layout model that work in one dimensional way. It works row ways.

Different Between Flexbox and grid are given below:

Flex only works one dimensional way [row or column ways] on the other hand grid can work row and column both ways.

==========End ==========

2. Explain CSS position property? What are some differences between absolute position and relative position?

Ans: CSS position property defines the position of an element in a web page. This property works with the left, right, top, bottom and z-index properties to determine the final position of an element on a page.

Difference between absolute and relative position:

- Relative - positioned element is positioned relative to its normal position, Absolute –is relative to the first parent element that has a position other than static.
- Position relative works from the same side but absolute works depending to its relatives' parents' area.

========End =========

3. What is a box model? And what are the different elements of a box model?

Ans: The CSS box model is a container that contains multiple properties including borders, margin, padding, and the content itself. It is used to make web layout.

The different element of box model are:

1)Content

2)Padding

3)Border

4)Margin

========End ========

4. What is a Hover effect? What is the purpose of the active class?

Ans:

CSS hover effect works when a user hovers over an element with mouse curser, and the element responds with transition effects.

Perpose of active class:

active is a CSS pseudo-class. It specifies and selects an element based on a state. It works when an element is being activated by the user by mouse click. It is often used to target and style an element when it's active.

========End ========

5: What are the different types of Selectors in CSS?

Ans:

- 1)Tag selector
- 2)Id selector
- 3)class select
- 4)group selector
- 5)Universal selector
- 6)Descendant selector
- 7)pseudo selector
- 8)adjacent sibling selector
- 9)general sibling selector

========End========

6. What is CSS Specificity?

Ans: CSS Specificity is the means by which browsers decide which CSS property values are the most relevant to an element and, therefore, will be applie

It works by this directional priority:

1)Id ->class->tag

========End ========

7. What is a CSS Preprocessor? What are some benefits of Sass?

Ans:

CSS preprocessors extend the functionality of regular CSS. They add more logical syntax and tools like variables, if/else statements, and loops. This makes the CSS more efficient and concise, powerful and dynamic. Using a CSS preprocessor, a developer is able to write out more complex style and layout. The source code can be shorter and more readable.

Benefit of using sass over css:

- 1)It's CSS syntax friendly
- 2)It offers variables for whatever you want
- 3)It uses nested syntax
- 4)It includes mixins

=========End =========

8. What is a Pseudo element? Give an example of pseudo element

Ans:

A CSS pseudo-element is a keyword added to a selector that lets you style a specific part of the selected elements. For Example, Styling the first letter or line of an element,

Examples of pseudo elements are:

: before |: after |: first-letter ETC.

=========End =========

9. How will you use media queries to make a website responsive?

Ans:

To use media query, we have to write like below code:

@Media and (max-width:768) {

code for responsive will here,

}

=========End =======

১০. How will you make font size responsive?

Ans:

we can responsive font size my using rem unit. REM unit works based on browser default size.

There are some more measuring units available :

px,em,% vh,vw etc

.

=========End ======

11.Difference between transition and transform

Ans:

The transform CSS property lets us rotate, scale, skew, or translate an element. It modifies the coordinate space of the CSS visual formatting model

On the other hand, CSS transitions provide a way to control animation speed when changing CSS properties. Instead of having property changes take effect immediately, you can cause the changes in a property to take place over a period of time.

========End ========

12. How will you horizontally and vertically center a div inside a div

Ans:

To center a div horizontal and vertical way we can use various ways an example given below:

1)give the parent property:

display: flex, justify-content: center; align-items: center;

=======End ==========

JAVASCRIPTS QUESTIONS

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1. How does JavaScript work?

Ans: Javascript is a single thread programming language (means doing a job at one time). Javascript Code is used to run on the browser with the help of JavaScript Engine such as V8 Engine, Spidermonkey Chakra etc. The most popular among these is V8 Engine. It is built with C ++ language and it converts Javascript Code to Machine Code using JIT (just in time compiler). And Javascript usually works on Asynchrony Way. Asynchrony is a method that for the code that will take some load or time from execute when running the code (Synchronus Code) does not wait to run the lower or the next comed code but the codes that work asynchronously will work as a task queue. The tab is deposited in the tab and then the syncronus code runs with an event loop one by one, and when the loading process of the Asynchronous Task is finished, they also run through the Event Loop.

Bangla: Javascript হচ্ছে একটি single Thread Programming Language(মানে এক সময়ে একটি কাজ করা)। Javascript Code Browser এ রান করতে যে Engine গুলো ব্যবহার করা হয় তাকে বলা হয় Javascript Engine যেমন V8 Engine,SpiderMonkey Chakra Etc।এগুলো মধ্যে সবচেয়ে পোপুলার হচ্ছে V8 Engine। এটা C++ Language দিয়ে বানানো হয়েছে এবং এটি Javascript Code কে Machine Code এ রুপান্তর করে JIT(Just in Time Compiler) ব্যবহার করে রান করে থাকে। এবং Javascript Asynchrony Way তে সাধারণত কাজ করে। Asynchrony হচ্ছে এমন একটি পদ্ধতি যেটা Code Run করার সময় যে কোড গুলো Execute হতে কিছুটা লোড বা সময় নিবে তাদের জন্য তার(synchronus code) নিচের বা পরের আসা কোড কে রান করতে অপেক্ষা করায় না বরং যে কোড গুলো Asynchronously কাজ করবে তাদের Task Queue নামে একটি Tab এ জমা করে রাখে এবং ততক্ষণে Syncronus Code গুলো এক এক করে Event Loop দিয়ে রান করতে থাকে এবং Asynchronous Task এর লোডিং প্রসেস এর কাজ শেষ হলে Event Loop এর মাধ্যমে এগুলোও রান করে দেয় শেষে।

==========End ==========

2. How does JavaScript code is executed in Browser?

Ans: The engines that are used to run in Javascript Code Browser are called Javascript Engine such as V8 Engine, SpiderMonkey Chakra Etc. The most popular of these is V8 Engine. It is made with C Language and it converts Javascript Code to Machine Code and runs using JIT (Just in Time Compiler). And Javascript usually works on Asynchrony Way

========End ========

3.What are the differences between "==" and "===" ?

Ans:

The Difference between == and === are given below:

== sign check only value is same or not on the other hand === sign check value and data type both. If any of one false then === sing will give false. But == sign doesn't check the data type.

========End ========

4. What is a callback function?

Ans: A callback function is a function passed into another function as an argument, which is then invoked inside the outer function to complete some kind of routine or action. Callbacks make sure that a function is not going to run before a task is completed but will run right after the task has completed. It helps us develop asynchronous JavaScript code and keeps us safe from problems and errors.

========End ========

5.How will you return more than one value from a function?

Ans: To Return Multiple items form a function we can return an array or objects of all items. Then we can destructure them to our need.

========End========

6. Tell me about bind, call and apply.

Ans: the fundamental difference is that call () accepts an argument list, while apply () accepts a single array of arguments. Data binding in concept is quite simple. On one side, you have a data model and on the other side, you have an interface, often called a view. The idea is that you want to "bind" some piece of data to something on the view so that when the data changes, the view changes.

========End ========

7. What is a Closure in JavaScript? How does it work?

Ans:

Closures are functions that have access to the variables that are present in their scope chain even if the outer function ceases to exist. Closures are useful whenever you need a private state associated with a function. This is a very common scenario - and remember: JavaScript did not have a class syntax until 2015, and it still does not have a private field syntax. Closures meet this need.

=========End =========

8. What does the "this" keyword indicate in JavaScript?

Ans:

In JavaScript, this keyword refers to an object that is executing the current piece of code. It references the object that is executing the current function. If the function being referenced is a regular function, "this" references the global object. If the function that is being referenced is a method in an object, "this" references the object itself.

=========End =========

9. What is Event bubbling in js?

Ans:

Event bubbling is a way of event propagation in the HTML DOM. It relates to the order in which events are propagated in nested elements. In bubbling, when an event happens, the handler of the innermost element runs, then the parents, and then the further ancestor elements. In other words, events bubble up or propagate the DOM tree upwards.

=========End =======

10. Explain hoisting in JavaScript.

Ans:

In JavaScript, Hoisting is a kind of default behavior in which all the declarations either variable declaration or function declaration are moved at the top of the scope just before executing the program's code. However, it can be considered an advantage because all functions and variable declarations are placed to the top of their scope no matter where they are all declared anywhere in the whole program, even regardless of whether they are declared global or local.

=========End ======

11. What is a recursive function function

Ans:

A recursive function is a function in code that refers to itself for execution. Recursive functions can be simple or elaborate. They allow for more efficient code writing, for instance, in the listing or compiling of sets of numbers, strings or other variables through a single reiterated process.

========End ========

১২. Difference between undefined and null

Ans:

- The undefined property indicates that a variable has not been declared at all.
- The value null represents the absence of any object value

=======End ==========

13. What are the different data types in JavaScript?

Ans:

There are various data types available in javascripts. The are given below:

1. Number Data types
2. String Data types
3. Boolen Data types
4. Object Data Types
5. Undefined
6. Array data type
7. Null data type

=======End ==========

14. What is DOM

Ans:

The Document Object Model (DOM) is a programming interface for HTML(HyperText Markup Language) and XML(Extensible markup language) documents. It defines the logical structure of documents and the way a document is accessed and manipulated. With DOM, we can easily access and manipulate tags, IDs, classes, Attributes, or Elements of HTML using commands or methods provided by the Document object. Using DOM, the JavaScript gets access to HTML as well as CSS of the web page and can also add behavior to the HTML elements. so basically Document Object Model is an API that represents and interacts with HTML or XML documents.

=======End ==========

15. How will you know the type of a JavaScript variable?

Ans:To check type of any value in javascripts we can use typeof method .

How to use typeof method?

Typeof(value); this will return the type of value

=======End ==========

ES6 JS QUESTIONS

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১. Tell me about Es6? what ES6 features did you use?

Ans: ES6 means ECMAScript 6.It is the newer version of javascript code.

The feature i have used I ES6:

- new way to defined variable with const and let keyword.
- we have arrow function to build function with new systext.
- we get new looping way like for of, for in etc
- To use promise we have got a new syntext of it named async await function.
- classes syntax.
- map object, set object

==========End ==========

২. What are the differences between var, let, and const?

Ans:

The difference between var let and const are:

- Var = var is the oldest syntext of defining variable in js. It works as global scope or functional scope. It means variables defined outside the function can be accessed globally, and variables defined inside a particular function can be accessed within the function.
- Let = this is the new systext of defining variable in js.It works as a block scope. Means a variable making on {} sign can not used outer of these curly {} sign.but we can modify the value as our need.
- Const = const is alike of let variable. But only difference it has that we can not modify its value as per we want. It has to always stay same value when we defined it.

========End =========

৩. Why will you use default parameters?

Ans:

Default parameters is a way to set default value to a function parameter. It may be null or anything else. I we don't set a default value on a params of function then it will give undefined if we don't pass its value when calling the function.but if a value is Given before then it will not show undefined rather will show default value for it.

========End ========

৪. How does the Spread operator work?

Ans: spread operator works with '...' sign to spread all value of object or array. It allows us to quickly copy all or part of an existing array or object into another array or object.

For example :

Let array1 = [1,2,3]

let copyOfarrat1 = [...array1]

This will copy of array1.

========End ========

৫. Difference between class and object

Ans:

The difference between class and objects are:

- Class is a blueprint or template of an objects on the others hand objects is an instance of class.
- class is a logical entity.but objects are practical entity.
- class defined with class keyword. Objects defined with new keywords.

========End========

৬. What is a Prototype chain?

Ans: The prototype is an object that is associated with every functions and objects.Every function includes prototype object by default. The prototype object has prototype of its own and so on until an object is reached with null as its prototype. So, this linking with one another is called as prototype chain.Null has no prototype and it acts as a final link in this prototype chain.

========End ========

৭. Explain Call by value vs call by reference

Ans:

- call by value di not change the main value. But call by references will change if it modified
- call by value is a copy of variable passed. whereas call by references pass itself to variable.
- Call by Value, variables are passed using a straightforward method whereas Call by Reference, pointers are required to store the address of variables.

=========End =========

Explain JavaScript scope, Block scope, and global scope?

Ans:

Difference between block scope and global scope and Lexical Scope are:

block scope works only on ({}) block sign.it will not work outer of block or one block to other block. On the other hand, global scope works anywhere eaily.

on the other hand, A lexical scope means that a variable defined outside a function can be accessible inside another function defined after the variable declaration. But the opposite is not true; the variables defined inside a function will not be accessible outside that function

=========End =========

৯. What is a Higher-order Function?

Ans:

Higher-order functions are a unique category functions that either accept functions as an argument or return functions. It perform for doing operations on other functions.

=========End =======

১০. What is API? Difference between Get vs post?

Ans:

API means application programming interface. It is a software intermediary that allows two applications to talk to each other. When we use an application on our mobile phone, the application connects to the Internet and sends data to a server. The server then retrieves that data, interprets it, performs the necessary actions and sends it back to our phone. The application then interprets that data and presents us with the information we wanted in a readable way. This is what an API is - all of this happens via API.

=========End ======

১১. Difference between local storage and Session storage

Ans:

Session Storage is a data storage system that stores data in the Session Tab of the browser for temporary time. It only lasts for a while or until the Browser App closes. Local Storage, on the other hand, is a data storage system that stores data permanently in a tab called Local Storage. If you want to delete the data of Local Storage, the user has to do it on his own initiative. It cannot be deleted automatically like Session Storage data. So, if there is a situation where data needs to be stored for Temporary Time then I will use Session Storage and if I need Store for Permanent Time then I will use LocalStorage.

========End ========

12. What is object-oriented programming?

Ans:

Object orientend programming is an programming model which help to build an efficient software design, making well structured data, Array and objects into simple, reusable pieces of code blueprints (usually called classes).

=======End ==========

13. What are cookies? And why will you use it?

Ans:

A cookie is a small data of data from a website that is stored within a web browser that the website can retrieve at a later time. Cookies are used to tell the server that users have returned to a particular website.

Cookie helps to remember website information about we visit, which can both make it easier to visit the site again and make the site more useful to you.

=======End ==========

১৪. Difference between Array vs LinkedList.

Ans:

- Array is a collection of elements of a similar data type.but Linked List is an ordered collection of elements of the same type in which each element is connected to the next using pointers.
- Array elements can be accessed randomly by index. But Random accessing is not possible in linked lists.
- In Array memory is allocated during the compile time. But in Linked List memory is allocated during the run-time.

=======End ==========

১৫. How will you debug a JavaScript application

Ans:

To debug javascript application we can follow these steps :

- Step 1: Reproduce the bug.
- Step 2: Get familiar with the Developer tools and Sources panel UI.
- Step 3: use breakpoint Pause the code with a .
- Step 4: follow each Step through the code.

- Step 5: Set a line-of-code breakpoint.
- Step 6: Check variable values. Method 1: The Scope pane. Method 2: Watch Expressions. ...
- Step 7: Apply a fix.

=======End ==========

Basic React JS QUESTIONS

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১. What is reactjs?

Ans: React is a front-end JavaScript library. It works based on component approach which helps in building reusable UI components. It helps to develop complex and interactive web and mobile UI

2.Tell us about advantages and disadvantages of using react js.

advantages and disadvantages of using react js are given below:

Advantages of React:

- It improves the application's performance
- code's readability increases because of JSX.
- It is easy to integrate with other frameworks.
- It gives a beautiful and smooth experience of using website without reload everytime.

Disadvantages of React:

- React is just a library, not a full-blown framework
- It can be little difficult for the new learner programmers to understand
- It is not good for SEO.

==========End ==========

3. Why will you select ReactJS?

Ans: We select react because it helps to improve the performance of applications. It can run a website without reloading the page everytime whice gives the user a smooth experience of using the website. It is so fast, scalabe and simple. we can reuse component as per our need. It provides totally Hassle-free reusability of components.

========End =========

4. What is Virtual dom? What are the differences between virtual and real dom?

Ans:

A virtual DOM is a lightweight JavaScript object which originally is just a copy of the real DOM.It kept in the memory and synced with the real DOM by libraries such as ReactDOM. This is an Reconciliation process. both virtual DOM and real DOM belongs to same properties.

The differences between virtual and real dom are given below:

1. Real Dom update state slow but vitual dom update state fast.
2. Real DOM can directly update HTML code but virtual dom can not update HMTL code directly.
3. Vitual Dom is easy to use for dom menupulation. But Real DOM is not so easy like virtual DOM.

========End ========

5.Can you change props?

Ans: No. props is read only in react Js. We can not change props. We can change states of react js. But we can pass props to one component to other component.

========End ========

6. What is the purpose of useState? When and why will you use it?

Ans: The useState Hook allows us to manage state in a function component. State generally refers to data or properties that need to be manage in an application. It helps us to change data state as per our need. It works similar like a variable that can be change. We use this hook when we need to store some data that can be change as per our need. It helps to easily update state data in application.

========End========

7. What is a context API? How does it work?

Ans: The Context API is a system for a React app to effectively produce global variables that can be passed to the entier app without any issue. It helps to easy do props drilling. If a child component at nth level requires a property from a parent component at any level, the information needs to be passed one level by level through props. In an application with lot of nested components, it is difficult.

Context API helps to directly send an information from a parent component to a child component at any level.

========End ========

8. Difference between useEffect and useState?

Ans:

The useEffect hook lets us to perform side effects in functional components. It helps us to avoid redundant code in different lifecycle methods of a class component. It helps to group related code. on the other hand, the useState Hook allows us to manage state in a function component. It helps us to change data state as per our need.

=========End =========

9. What is JSX? How does it work

Ans:

JSX is a shorthand for JavaScript XML. JSX allows us to write HTML elements in JavaScript and place them in the DOM.It converts HTML tags into react elements. It makes it easier to write React applications.

=========End =========

10. Tell us about React Component lifecycle

Ans:

The development of each component involves the use of different lifecycle methods **i**n ReactJS**.** There are 4 phases involved in the lifecycle

1. Initializing
2. Mounting
3. Updating
4. Unmounting

=========End =======

11. What is the purpose of a custom hook? How will you create a custom hook? Give us an example.

Ans:

Custom Hook is a JavaScript function which we create by ourselves, when we want to share the same logic between other JavaScript functions. It allows you to reuse some piece of code in several parts of your app.

to make a custom hook we can create a folders name hook for store our all-custom hook. Then we can make a file based custom hook on this folder as per our need.

for example: we always need to fetch data from API so to write the data fetching code again and again rather we can make a custom hook for fetching data and can use it for any fetching data from API.

=========End ======

12. How would you optimize a react js application?

Ans:

React Js Always re-render the comonent code while chaning a state. When we change something on react in re-render the whole code of our app which is unnecessary sometime for our application. For stop these unnecessary re-renders we can use useMemo. This function will help to not re-render the code always. It will take some dependency for re-render those code. And it will improve out application speed also.

========End ========

React JS QUESTIONS 2

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1.How will you send data from a Child Component to the parent component?

Ans:

To send data from child component to the parent component with have to go through this step:

1. We need to create a callback function in the parent component. This callback function will get the data from the child component.
2. Then we need to Pass the callback function to the child as a prop from the parent component.
3. The child component will call the parent callback function using props and passes the data to the parent component by callback function.

There is another easy way of doing this. we can use ContextAPi to manage our data/props drilling works smoothly.

2.What is the best way to send 4 or more props to a child component?

Ans: To send 4 or more props to child component we can use and object. We can keep all the state data into an object and pass the object as props into child component. And from this object we can desctructuring the data. This can be the best way to pass more props to a child component.

==========End ==========

3.What is Redux and and what is the purpose of Redux?

Ans: Redux is tools to store the state of the variables in your app. Redux creates a process and procedures to interact with the store so that we can use these state data as per our need easily. By using redux we can manage state easily without any complex props drilling like doing nested passing states. It make the state management process so easy.

========End =========

4.What is React native? What do you know about React Native?

Ans:

React Native is a mobile framework of react whick helps to build mobile application with react.

At present I don't have any knowledge about react native. But as I knew React then I think I will be easy to learn for me.

========End ========

5.What are Higher order components? Give us an example.

Ans: A function which takes one or more functions as arguments or returns a function as result is called a higher order function. This function contains the other function as parameter and can returns it as an output.

For example :

```
function add(param1,param1){
        return param1+param2;

}

function highOrder(value1,value2,addFunc){
```

```
    retuen addFunc(value1,value2)


}


highOrder(10,20,add);
```

Here highOrder function is a higher order function. It has taken a function as param and return also a function.

========End ========

6.Is there any reason to return something from a UseEffect hook?

Ans: Sometimes we need to return a clean up function from useEffect Hook. This clean up function helps to prevent unnecessary memory leaks and remove unnecessary behaviour.This function also help to optimize the application.

Example of Writing pattern of useEffect with clean Up:

```
useEffect(() => { effect return () => { cleanup } }, [input])
```

========End========

7.How will you optimize a react application?

Ans: React Js Always re-render the comonent code while chaning a state. When we change something on react in re-render the whole code of our app which is unnecessary sometime for our application. For stop these unnecessary re-renders we can use useMemo. This function will help to not re-render the code always. It will take some dependency for re-render those code. And it will improve out application speed also.besides we can use useCallback hook also.

========End ========

8.What are the different ways to manage state in a React Application

Ans:

There are many ways in react to manage state. Some of are givem below:

1. passing stats as a prop from one component to others. sometimes It can be messy if we need to pass state by doing nested them to various component. It is not recommended way for big react application.
2. Context API is the build in react hook which help to manage react application state easy for doing props drilling. Here we can easily pass chile components state to parent component without any hard work.

3. Redux is a great tool to proficiently manage the state of react application. It has so much popularity for managing state efficiently.

=========End =========

9.Why do we inject dependency inside a UseEfect hook?

Ans:

useEffect is a react hook that works for managing the side effect part of a function component in react application.we need to put a callback function in useEffect to write our side effect logic.normally without any dependency or empty array useEffect code will run on evey re-render that can be slow down our app.if we pass an empty array then it will run only one time when window load.It will not work for the re-render.but If we pass a dependency state value in useEffect it will works depending on the value change of the state value.It will re-render only when the dependent state value change.

So If we need to run any code based on a state value change then with need to injected dependency.

=========End =========

10.How will you prevent re-render in react applications?

Ans:

In React Application all time re-render the full code can be slow down our App. To prevent this issue we can use useMemo or useCallback react hook.

With the helps of useMemo hook, it will reduce re-renderings by caching/memorizing same code and returning the same result if the inputs are the same without any computations/re-re-render. When the inputs change, the cache gets invalidated and the new component state gets rendered.

=========End =======

11.Tell me some disadvantages of Reactjs

Ans:

Some Disadvantages of React:

- React is just a library, not a full-blown framework
- It can be little difficult for the new learner programmers to understand
- It is not good for SEO.
- ReactJs documentation is not so good to understand.

=========End ======

12.Does React perform one-way data binding or two way data binding?

Ans:

ReactJS perform only one-way data binding.

========End ========

Node Js QUESTIONS

==========

1.What is Nodejs

Ans:

NodeJS is a javascript runtime engine which execute javascript code in web browser with the help of V8 engine.

2.Node vs javscript

Ans:

Node VS Javascript:

- 1)Javascript is a programming language but NodeJs is a javascript Runtime engine.
- 2)without nodeJs javascript can run only on browser but with the help of node js javascript can run outisde of browser.
- 3)Only Javascript works in client's side only. But node Js works mostly doing server-side task.
- 4)Javascript used in front End.but node js used for backed.

==========End ==========

3.Nodejs single threaded or multi threaded

Ans:

NodeJS works based on single Thread.

========End =========

4.What is Npm

Ans:

NPM is a Node Package manager of javascript. It helps to manage the packages of Application.Like update old, install new, uninstall, downgrade etc.

========End ========

5.What is the purpose of a database?

Ans:

Database is a store of collection of various datas for an application. The perpose of database is to store the application required datas in a well-structured way.

========End ========

6.What is CRUD

Ans:

CRUD means Create, Read, UPDATE, DELETE.Generally In an application we need to works with four functionality like Sometimes we need to add new data in our application for this we use create functionality. sometimes we need to delete data for this we use delete functionality. like this we can Read and update data by using Updat and read functionality.

========End========

7.PUT and Patch এর মধ্যে পার্থক্য কি?.

Ans: In an application put and patch method used for updating data. They both works for updating. But there has a little bit different Between them. In put method for updating data, we first find the unique id for updating it and if data id found then it will update it but if unique id didn't find then it will create a new data with a new ID. But patch method only update data. It will not create any new data if its not find any unique id.

========End ========

8.What is webpack

Ans:

Webpack is open-source and free module bundler for JavaScript.It will make a large number of files, it generates a single file (or a few files) that run your app. It can perform many operations: helps you bundle your resources. it can transform front-end assets such as HTML, CSS, and images if the corresponding loaders are included.

=========End =========

9.Get vs post?

Ans:

The major differences between GET and POST:

- If we do not need to to secure our file or document then Get method will be better. But in post method will secure our data to see on url.
- values are visible in the URL of GET method, but the values are not possible to see in post method.
- Get method support only stirng data type. On the other hand post method supports different data types, such as string, numeric, binary, etc.
- Get method is easy to cacheable. But in post method caching in hard.

=========End =========

10.sql vs nosql মধ্যে পার্থক্য কি? কোনটা বেশি ব্যবহার হয়

The differences between SQL and noSQL are given below:

- SQL is a RELATIONAL DATABASE MANAGEMENT SYSTEM. But no SQL is a distributed database system.
- SQL databases have fixed or static or predefined schema. On the other handl NOSQL database have dynamic schema
- SQL database are good for complex query. But noSQL database are not good for complex query.

=========End =======

11.Database design, database schema design বলতে কি বুজো?

Ans:

Database design is the Charting System of data organizing to a database model. Here The DB designer determines what data must be stored and how the data elements interrelate. With this information, they can begin to fit the data to the database model.[1] Database management system manages the data accordingly.

=========End ======

12.NodeJs ব্লকিং না নন-ব্লকিং কাজ করে

Ans:

NodeJs works based on non-Blocking systems.

========End ========