### SOLID:

### https://deviq.com/solid/

### Design Pattern:

### https://www.dofactory.com/net/design-patterns

### Collection and Generics:

### https://www.tutorialsteacher.com/csharp/csharp-generic-collections

### Angular:

### https://www.greycampus.com/blog/programming/top-30-interview-questions-and-answers-on-angular-5

### MVC:

### https://medium.com/dot-net-tutorial/top-50-asp-net-mvc-interview-questions-with-answers-1fd9b1638c61

### JS Apply, call, bind:

### https://www.codementor.io/niladrisekhardutta/how-to-call-apply-and-bind-in-javascript-8i1jca6jp

### Explain Authentication and Authorization.

Authentication: The user login credentials are passed to an authenticate API (on the server). On the server side validation of the credentials happens and a JSON Web Token (JWT) is returned. JWT is a JSON object that has some information or attributes about the current user.  Once the JWT is given to the client, the client or the user will be identified with that JWT.

Authorization: After logging in successfully, the authenticated or genuine user does not have access to everything. The user is not authorized to access someone else’s data,  he/she is authorized to access some data.

### What is an AsyncPipe in Angular?

When an observable or promise returns something, we use a temporary property to hold the content. Later, we bind the same content to the template. With the usage of AsyncPipe, the promise or observable can be directly used in a template and a temporary property is not required.

### What is AOT Compilation?

Every angular application gets compiled internally. The angular compiler takes javascript code, compiles it and produces javascript code again. Ahead-of-Time Compilation does not happen every time or for every user, as is the case with Just-In-Time (JIT) Compilation.

### 27. What is Redux?

It is a library which helps us maintain the state of the application. Redux is not required in applications that are simple with the simple data flow, it is used in Single Page Applications that have complex data flow.

### What is the sequence of Angular Lifecycle Hooks?

OnChange()  -  OnInit()  -  DoCheck()  -  AfterContentInit()  -  AfterContentChecked()  -  AfterViewInit()  -  AfterViewChecked()  -  OnDestroy().

### What are ngModel and how do we represent it?

ngModel is a directive which can be applied on a text field. This a two-way data binding. ngModel is represented by [()]

### 22. What does a Subscribe method do in Angular 4?

It is a method which is subscribed to an observable. Whenever the subscribe method is called, an independent execution of the observable happens.

### 23. Differentiate between Observables and Promises.

Observables are lazy, which means nothing happens until a subscription is made. Whereas Promises are eager; which means as soon as a promise is created, the execution takes place. Observable is a stream in which passing of zero or more events is possible and the callback is called for each event. Whereas, promise handles a single event.

Angular is a front-end or client-side Framework, which needs a programming language like Typescript (developed by Microsoft).

Angular is a platform that makes it easy to build applications with the web. Angular combines declarative templates, dependency injection, end to end tooling, and integrated best practices to solve development challenges. Angular empowers developers to build applications that live on the web, mobile, or the desktop.

* Angular 5 supports Typescript version 2.4
* Angular 5 supports RxJS 5.5 which has new features like Pipeable Operators
* A build tool to make the js bundles (files) lighter
* Ahead of Time (AOT) is updated to be on by default
* Events like ActivationStart and ActivationEnd are introduced in Router

### 2. Name the building blocks of Angular.

The Angular application is made using the following:

Modules

Component

Template

Directives

Data Binding

Services

Dependency Injection

Routing

### What is Transpiling in Angular?

Transpiling is the process of converting the typescript into javascript (using Traceur, a JS compiler). Though typescript is used to write code in the Angular applications, the code is internally transpiled into javascript.

### Which of the Angular life cycle component execution happens when a data-bound input value updates?

ngOnChanges is the life cycle hook that gets executed whenever a change happens to the data that was bound to an input.

### Differentiate between Components and Directives in Angular 5.

Components break up the application into smaller parts; whereas, Directives add behavior to an existing DOM element.

**SOAP** and **REST** both allow you to create your own **API**. **API**stands for Application Programming Interface. ... **SOAP** and**REST** are two **API** styles that approach the question of data transmission from a different point of view. **SOAP** is a standardized protocol that sends messages using other protocols such as HTTP and SMTP.

|  |  |
| --- | --- |
| **GET** | Read or retrieve data |
| **POST** | Add new data |
| **PUT** | Update data that already exists |
| **DELETE** | Remove data |

What is the purpose of HTTP Status Code?

HTTP Status code are standard codes and refers to predefined status of task done at server.

HTTP Status Code:

200 – OK, shows success.  
201 – CREATED, when a resource is successful created using POST or PUT request. Return link to newly created resource using location header.

204 – NO CONTENT, when response body is empty  
304 – NOT MODIFIED, used to reduce network bandwidth usage in case of conditional GET requests

400 – BAD REQUEST, states that invalid input is provided  
401 – FORBIDDEN, states that user is not having access to method being used  
404 – NOT FOUND, states that method is not available  
409 – CONFLICT, states conflict situation while executing the method  
500 – INTERNAL SERVER ERROR, states that server has thrown some exception while executing the method

### Why Typescript with Angular?

Typescript is a superset of Javascript. Earlier, Javascript was the only client-side language supported by all browsers. But, the problem with Javascript is, it is not a pure Object Oriented Programming Language. The code written in JS without following patterns like Prototype Pattern becomes messy and finally leading to difficulties in maintainability and reusability. Instead of learning concepts (like patterns) to maintain code, programmers prefer to maintain the code in an OOP approach and is made available with a programming language like Typescript was thus developed by Microsoft in a way that it can work as Javascript and also offer what javascript cannot ie;

* pure OOPS as Typescript offers concepts like Generics, Interfaces and Types (a Static Typed Language) which makes it is easier to catch incorrect data types passing to variables.
* TS provides flexibility to programmers experienced in java, .net as it offers encapsulation through classes and interfaces.
* JS version ES5 offers features like Constructor Function, Dynamic Types, Prototypes. The next version of Javascript ie ES6 introduced a new feature like Class keyword but not supported by many browsers.
* TS offers Arrow Functions (=>) which is an ES6 feature not supported by many browsers directly but when used in TS, gets compiled into JS ES5 and runs in any browser.
* TS is not the only alternative to JS, we have CoffeeScript, Dart(Google).
* Finally, it is like, TS makes life easier when compared to JS.

### What are the Pipes?

This feature is used to change the output on the template; something like changing the string into uppercase and displaying it on the template. It can also change Date format accordingly.

### 29. Differentiate between ng-Class and ng-Style.

In ng-Class, loading of CSS class is possible; whereas, in ng-Style we can set the CSS style.