Use of prototypes :

Difference of == and === (== compares value) (=== compares value and type)

Use of “use strict” 🡪 we can avoid errors 🡪 if we accidentally create global var it throws error 🡪 eliminates this confusion , helps with null and undefined variables usages.

NaN 🡪 “a” / “b”

To check if it is NaN (type is string)

Promise 🡪 present you don’t know the output, but you will get an answer for it in future use promise --. Based on success or failure you can call different methods. Based on promise we can route to different pages on application or stores the data in different tables. We can bind variables to functions based on the fulfilled or rejected. Three states are handling, fulfill, and reject. You can call callback functions with then or catch the err. Use (.then) to do stuff for success or (.catch) for failure. We use resolve and reject keywords to either fulfill or reject the promise.

You can avoid Call back hell using promise.

* Typically pass err as the first argument to the callback function in Nodejs to catch exceptions is the best practice.

React JS :

* If you bind the state to the input, then it is called as controlled component
* If you use “ref’s” to alter the input, then it is called as uncontrolled component 🡪 there is no binding between the state and the input.
* “ref’s” are used to manipulate the underlying original DOM rather than virtual DOM we manipulate using setState.
* Keys are important as it enables to keep track of the items in the list.
* “Context” allows us to pass data onto children to any levels(like grand or grand-grand children) whereas props can pass onto only to its immediate child.
* HOC is a function which receives a component and returns an augmented component
* Using Hooks and using useState it gives an array with 2 elements 🡪 1st element is the current state 🡪 2nd element is a function that allows us to update the current state.
* React Native is used to build mobile applications whereas react is used for web based applications.
* Flux helps in uni directional data flow
* Component return a react element by accepting inputs(props) or managing its own state. Whereas element is object representation of what we want to see on screen.
* Arrow function -?
* SASS is also used for styling. It uses variables like border radius to set them. Just like CSS. This is on top of CSS which gives extra features. BootStrap has default styles and you can import it and make changes in it using SASS.
* Jquery makes it easier to use JavaScript. Complex code into a single line code. Examples : like $(“.test”).hide() 🡪 hide the class test in rendering. Use can use Fade/FadeIn/FadeOut/ effects.

Slide/stop/Animate are more such methods 🡪 You can do things basically its like functions executing on 🡪 You can implement filters , AJAX calls as well.

* DHTML is a collection of HTML,CSS,JS to build compact and dynamic web pages.
* WebTier is like a middleware software which manages the flow of pages and information between front end and backend. Helps in building sessions for users.
* ANT is an XML based application used for building and packaging the project. You can run commands for compiling, building binary, deployment the binary to the server, test the changes before deployment. It is basically a build tool in order to build and deploy. You just need to setup the environment and run bunch of commands.

You should retrieve the package first(use retrieve command) and then deploy(use deploy command). You can also test before deploying the package(use test and deploy command). You can also so undeploy as well(use undeploy command). All the commands and their xml implementation is present in build file and you can change the directories or folders there.

* Perforce is a version control management tool where you can check out the codes under a change request. First you connect to a PV4 server using a IP and port number and then you select the projects you want to edit and then you update the revisions to download the projects into your local system. Then make the changes you want to make and then create a change list through which the changes are to be moved to the server. You can right click on files for more options. Finally submit the change list to submit the files and merge them onto server.

**Spring BOOT:**

* Springboot makes configuration easier when compared to spring. The framework itself handles configuration and so you need to make less configurations and you can make more annotations.
* First you must include dependencies to initiate the spring boot application. Also give artifact Id and group Id uniquely.
* Thymeleaf is a server-side Java template engine used for web applications. It aims to bring natural template for your web application and can integrate well with Spring Framework and HTML5 Java web applications.
* Use server.port option in application properties file to change the port number
* Spring Boot actuator allows us to monitor and manage the application when pushing to production. We can use http endpoints for this purpose.
* Server.port should be configured to change the port. Generic is port 8080
* spring-boot-data-JPA is used to connect Spring to JPA(database purpose)

**AWS:**

* Use load balancers to share the load to the instances.
* Load balancers receive SSL certificates
* We have auto scaling feature where ec2 instances can be scaled out or in(decreased).

**JUNIT TESTING Framework :**

* Used to run tests on small chunks of code.
* The Junit framework consists of four important modules 🡪
* Test Fixtures 🡪 uses annotations @before and @after (Setup() and TearDown() methods are used). It is done generate the same test conditions in order to repeat the test results.
* Test Suites 🡪 Clubs multiple Junit test cases together and run in a single go. We use @Runwith and @SuiteClasses are the annotations used.
* Test Runners 🡪 This is for executing test cases. JunitCore class is used in order to execute the test cases and RunClasses() method is used to run one or more cases. The method returns the test results.
* Junit Classes 🡪 they are used in writing and testing Junits. It contains Assert, TestCase, TestResult.
* @Before 🡪 before executing test case. @After 🡪 after executing test case. 🡪 @Test🡪 mentions that this can be executed as a test case. @BeforeClass 🡪 executes psvm before any test case executes and similarly @AfterClass (clean up activities). @Ignore 🡪 skip the test cases.
* Assert statements 🡪 determines pass or fail 🡪 total 8 assert statements 🡪 assertEquals, AssertTrue, AssertFalse, AssertSame, AssertNotSame, AssertNull, AssertNotNUll, AssertArrayEquals.
* @Expected to declare exceptions while running test cases
* Jenkins, OpenJml and SpotBugs are the other test tools that I have worked on.

**Selenium :**

* Selenium is a automated testing tool to test web applications using written JavaScript classes or test files. It is open source.
* Selenium was developed by different individuals as modules and integrated together to form selenium.
* Major advantages of selenium are regressive testing, fast, perfect(always correct) and no need for manual testing.
* Disadvantages of selenium are it is not supported for mobile applications and setting it up is tedious.
* Selenium IDE is a Firefox plugin to create and execute test cases. It records and plays back the interactions user had with the web browser. You open this IDE and perform operations on web browser 🡪 everything gets recorded and you can playback the operations done. You can extract the steps you have done in different programming languages. New test cases can be put even after running and also debug operation can be done. (Drawbacks) 🡪 only works for Firefox. 🡪 Dynamic(like changing URL’s like password change etc. ) don’t work 🡪 You cannot program or edit the script only export 🡪 Data cannot be given to test (only clicking and navigating).
* Selenium RC helps to write test cases in different programming languages. It uses selenium RC server to communicate with web browser. RC server alone can communicate with web browser and hence RC is slow.
* WebDriver also is used to write and execute test cases. First you need to find web page elements (like drop downs, text fields, links, select buttons) to give values to them. You have locators in selenium to find the elements in the web page. WebDriver methods are used to perform actions on elements. WebDriver is not IDE but has a programming interface. It interacts directly to browser and hence fast. Drawback of WebDriver is that it does not give reports to us we have build them.
* selenium Grid is used to run multiple test scripts on multiple applications at the same time. It supports both selenium RC and WebDriver test methods. It uses master and child hierarchy to run multiple test cases simultaneously.
* Difference between selenium RC vs WebDriver is

1. WebDriver is faster than selenium RC