SQL::

Oracle uninstallation including registry clean

Downloading Oracle

Installing Oracle
Downloading SQL developer

Installing SQL developer

Configuring Connection from SQL Developer to Oracle

Play around with one simple table

Understanding the importance of Databases

Diffenet available databases in the industry

Knowing difference between database server and database

Knowing the role of SQL in the databases.

Table creation
Inserting records in various ways

Updating records in various ways

deleting records in various ways

droping table

select command

columns with aliasing

boolean conditions with where cluase

order by

built-in functions like count, min, max, avg

finding out 2nd max and 2nd min

inner query

group by

dept wise 2nd max, 2nd min
rank with over and finding any ranked record

rownum

pagination

distinct

reading unique records with distinct

reading unique records with group by

rowid

deleting duplicate records

not null

unique

constraint

composite unique

primary

composite primary

diff between unique and primary

foreign key

conditions to be followed in the foreign key

one-to-one mapping

conditions to be followed to achieve one-to-one mapping

inner join in one-to-one

left outer join in one-to-one

right outer join in one-to-one

full outer join in one-to-one

one-to-many mapping

conditions to be followed to achieve one-to-many mapping

inner join in one-to-many

left outer join in one-to-many

right outer join in one-to-many

full outer join in one-to-many

many-to-many mapping

conditions to be followed to achieve many-to-many mapping

inner join in many-to-many

left outer join in many-to-many

right outer join in many-to-many

full outer join in many-to-many

date column
timestamp column
to_date,to_timestamp and to_char functions

self join

alter table name
drop column, add new column

add constraint

disable constraint

enable constraint

drop constraints

normalization

1st normal form (1nf)

2nd normal form (2nf)

3rd normal form (3nf)

Project database design: LMS Database design
Project database design: e-commerce Database design
Project database design: LinkedIn application Database design

DSA Content:

Arrays :

https://leetcode.com/problems/kth-largest-element-in-an-array/

https://leetcode.com/problems/neither-minimum-nor-maximum/

https://leetcode.com/problems/sort-colors/

https://leetcode.com/problems/missing-number/

https://leetcode.com/problems/maximum-product-of-three-numbers/

https://leetcode.com/problems/remove-duplicates-from-sorted-array/

https://takeuforward.org/data-structure/left-rotate-the-array-by-one/

https://leetcode.com/problems/rotate-array/

https://leetcode.com/problems/move-zeroes/

https://leetcode.com/problems/max-consecutive-ones/

https://leetcode.com/problems/rotate-image/

https://leetcode.com/problems/spiral-matrix/

https://leetcode.com/problems/spiral-matrix-ii/

https://leetcode.com/problems/best-time-to-buy-and-sell-stock

Strings :

https://leetcode.com/problems/valid-anagram/

https://leetcode.com/problems/reverse-string/

https://leetcode.com/problems/reverse-words-in-a-string/

https://leetcode.com/problems/valid-palindrome/

https://leetcode.com/problems/valid-palindrome-ii/

https://leetcode.com/problems/consecutive-characters/

https://leetcode.com/problems/longest-common-prefix/

HashMap & Sliding window technique :

https://leetcode.com/problems/first-unique-character-in-a-string/

https://leetcode.com/problems/first-letter-to-appear-twice/

https://www.geeksforgeeks.org/counting-frequencies-of-array-elements/

https://leetcode.com/problems/sort-characters-by-frequency/

https://leetcode.com/problems/two-sum/

https://www.geeksforgeeks.org/find-a-pair-with-the-given-difference/

https://leetcode.com/problems/3sum/

https://leetcode.com/problems/intersection-of-two-arrays/

https://leetcode.com/problems/intersection-of-two-arrays-ii/

https://leetcode.com/problems/longest-substring-without-repeating-characters/

https://leetcode.com/problems/longest-substring-with-at-most-two-distinct-characters/

https://leetcode.com/problems/longest-substring-with-at-most-k-distinct-characters/

https://leetcode.com/problems/longest-repeating-character-replacement/

https://www.geeksforgeeks.org/find-if-there-is-a-subarray-with-0-sum/

https://leetcode.com/problems/subarray-sum-equals-k/

https://leetcode.com/problems/subarray-sums-divisible-by-k/

https://leetcode.com/problems/valid-anagram/

https://leetcode.com/problems/group-anagrams/

https://leetcode.com/problems/max-consecutive-ones/

https://www.lintcode.com/problem/883/

https://leetcode.com/problems/max-consecutive-ones-iii/

https://leetcode.com/problems/lru-cache/

https://leetcode.com/problems/sliding-window-maximum/

Stacks and Queues :

https://www.geeksforgeeks.org/stack-data-structure/

https://www.javatpoint.com/ds-array-implementation-of-stack

https://leetcode.com/problems/valid-parentheses/

https://leetcode.com/problems/remove-all-adjacent-duplicates-in-string/

https://leetcode.com/problems/remove-all-adjacent-duplicates-in-string-ii/

https://leetcode.com/problems/removing-stars-from-a-string/

https://leetcode.com/problems/next-greater-element-i/

https://leetcode.com/problems/next-greater-element-ii/

https://leetcode.com/problems/daily-temperatures/

https://leetcode.com/problems/trapping-rain-water/

https://leetcode.com/problems/top-k-frequent-elements/

https://www.geeksforgeeks.org/queue-data-structure/

https://www.geeksforgeeks.org/array-implementation-of-queue-simple/

https://leetcode.com/problems/implement-queue-using-stacks

https://leetcode.com/problems/implement-stack-using-queues

https://leetcode.com/problems/kth-largest-element-in-an-array/

Sum of K largest elements

https://takeuforward.org/data-structure/kth-largest-smallest-element-in-an-array/

Sum of k minimum elements

Linked list :

https://www.geeksforgeeks.org/search-an-element-in-a-linked-list-iterative-and-recursive/

https://www.geeksforgeeks.org/find-length-of-a-linked-list-iterative-and-recursive/

https://leetcode.com/problems/middle-of-the-linked-list

https://leetcode.com/problems/delete-the-middle-node-of-a-linked-list

https://leetcode.com/problems/merge-two-sorted-lists

https://leetcode.com/problems/palindrome-linked-list

https://leetcode.com/problems/remove-nth-node-from-end-of-list

https://leetcode.com/problems/remove-duplicates-from-sorted-list

https://leetcode.com/problems/remove-linked-list-elements

https://leetcode.com/problems/delete-node-in-a-linked-list

https://leetcode.com/problems/reverse-linked-list

https://leetcode.com/problems/swapping-nodes-in-a-linked-list

https://leetcode.com/problems/flatten-binary-tree-to-linked-list

https://leetcode.com/problems/odd-even-linked-list

Recursion :

https://www.geeksforgeeks.org/introduction-to-recursion-data-structure-and-algorithm-tutorials/

Print 1 to 10 using recursion

https://www.geeksforgeeks.org/java-program-for-factorial-of-a-number/

https://www.geeksforgeeks.org/java-program-to-display-numbers-and-sum-of-first-n-natural-numbers/

https://leetcode.com/problems/fibonacci-number/

https://leetcode.com/problems/combination-sum/

https://leetcode.com/problems/combination-sum-ii/

https://leetcode.com/problems/subsets/

https://leetcode.com/problems/subsets-ii/

Trees :

Binary tree :

https://takeuforward.org/data-structure/strivers-tree-series-tree-data-structure/#point_1

https://leetcode.com/problems/binary-tree-preorder-traversal/

https://leetcode.com/problems/binary-tree-inorder-traversal/

https://leetcode.com/problems/binary-tree-postorder-traversal/

https://www.geeksforgeeks.org/search-a-node-in-binary-tree/

https://www.geeksforgeeks.org/sum-nodes-binary-tree/

https://leetcode.com/problems/second-minimum-node-in-a-binary-tree/

https://www.geeksforgeeks.org/find-maximum-or-minimum-in-binary-tree/

https://leetcode.com/problems/maximum-depth-of-binary-tree/

https://leetcode.com/problems/balanced-binary-tree/

https://leetcode.com/problems/diameter-of-binary-tree/

https://leetcode.com/problems/same-tree/

https://leetcode.com/problems/symmetric-tree/

https://leetcode.com/problems/binary-tree-maximum-path-sum/

https://leetcode.com/problems/binary-tree-zigzag-level-order-traversal/

https://leetcode.com/problems/binary-tree-right-side-view/

https://www.geeksforgeeks.org/print-left-view-binary-tree/

https://leetcode.com/problems/lowest-common-ancestor-of-a-binary-tree/

https://leetcode.com/problems/construct-binary-tree-from-preorder-and-inorder-traversal/

https://leetcode.com/problems/construct-binary-tree-from-inorder-and-postorder-traversal/

https://leetcode.com/problems/binary-tree-level-order-traversal/

https://leetcode.com/problems/binary-tree-level-order-traversal-ii/

https://leetcode.com/problems/binary-tree-zigzag-level-order-traversal/

Binary search tree :

https://leetcode.com/problems/search-in-a-binary-search-tree/

https://practice.geeksforgeeks.org/problems/minimum-element-in-bst/1

Maximum element in bst

https://leetcode.com/problems/insert-into-a-binary-search-tree/

https://leetcode.com/problems/delete-node-in-a-bst/

https://leetcode.com/problems/range-sum-of-bst

https://leetcode.com/problems/increasing-order-search-tree

https://leetcode.com/problems/kth-smallest-element-in-a-bst/

https://leetcode.com/problems/validate-binary-search-tree/

https://leetcode.com/problems/lowest-common-ancestor-of-a-binary-search-tree/

https://leetcode.com/problems/construct-binary-search-tree-from-preorder-traversal/

https://leetcode.com/problems/inorder-successor-in-bst/

https://leetcode.com/problems/two-sum-iv-input-is-a-bst/

https://leetcode.com/problems/balance-a-binary-search-tree

Dynamic programming :

https://leetcode.com/problems/climbing-stairs/

https://leetcode.com/problems/min-cost-climbing-stairs/

https://leetcode.com/problems/house-robber/

https://www.geeksforgeeks.org/0-1-knapsack-problem-dp-10/

https://leetcode.com/problems/coin-change/

https://leetcode.com/problems/coin-change-2/

https://leetcode.com/problems/unique-paths/

https://leetcode.com/problems/best-time-to-buy-and-sell-stock/

https://leetcode.com/problems/best-time-to-buy-and-sell-stock-ii/

https://leetcode.com/problems/best-time-to-buy-and-sell-stock-iii/description/

https://leetcode.com/problems/best-time-to-buy-and-sell-stock-iv/

Binary Search :

https://www.geeksforgeeks.org/binary-search/

https://leetcode.com/problems/binary-search/

https://leetcode.com/problems/search-insert-position/

https://leetcode.com/problems/search-a-2d-matrix/

https://leetcode.com/problems/sqrtx/

https://leetcode.com/problems/find-first-and-last-position-of-element-in-sorted-array/

Restful webservices (Rest APIs) in Springboot

1. Configuring and Downloading Springboot application

   with spring web dependency

2. importing into eclipse and configuring in application.properties
3. starting and stopping the application
4. starting application in different port numbers (multiple instances).
5. knowing about embedded Tomcat
6. understanding 404
7. making application class as a RestController
8. developing helloworld restful webservice in the application class
9. CommandLineRunner

10. Developing a separate RestController
11. all diff return types to the restful webservices

      1. void
      2. primitive data types
      3. wrapper classes types
      4. array types
      5. collections type
12. understanding Bean class development
13. returning Bean type from restful webservice
14. returning Bean type with has-a from restful webservice
15. returning Bean type with collections from restful webservice
16. input through PathVariable
16. multiple PathVariables
17. understanding bad input (400 error code)
18. required, name, value attributes of PathVariable
19. input through RequestParam
20. understanding query string
21. multiple RequestParams
22. defaultValue, required, name, value attributes of RequestParam
23. RequestBody
24. Advanced Rest Client (ARC)
25. JSON object format
26. File Upload
27. Same request with multiple Files upload
28. Same request with Files upload and text parts
29. POI integration
30. Excel file upload
31. Excel file reading with POI
32. mail sender dependency
33. sending mail from restful webservice
34. ResponseEntity importance
35. ResponseEntity through static methods
36. ResponseEntity through constructors

37. ResponseEntity with diff status codes(404, 400, 500)
38. ResponseEntity with Response Headers (content-type, refresh, content-disposition)
39. File download and auto reload
40. diff types of http methods (post, get, put, delete)

Spring Data JPA:

1. Downloading Springboot application with Spring web, Data JPA and H2 dependencies
2. inmemory databases
3. Configuring H2 database
4. Entity development.
5. Repository development.
6. CRUD operations.
    1. save
    2. saveAll
    3. findById
    4. findAllById
    5. findAll
    6. count
    7. deleteById
    8. deleteAll
    9. deleteAllById
    10. delete
7. unique, not null
8. custom finder methods
    1. findByField methods
    2. findAllByField methods
    3. JQL with @query
    4. SQL with @query
9. auto generates
10. Lombok

10. composite unique key
11. composite primary key
12. service layer
13. one-to-one mapping
    1. uni-directional
    2. bi directional
       2.1. mappedBy
          2.2. jsonIgnore
          2.3. service layer
14. one-to-many mapping
    1. uni-directional
    2. bi directional
       2.1. mappedBy
          2.2. jsonIgnore
          2.3. service layer
15. many-to-many mapping
    1. uni-directional
    2. bi directional

Spring Security:

1. Security Setup
2. Inmemory Credentials and Password encoding
3. Reading Credentials from DB
4. Authorization Patterns
5. Tesing Authentication through ARC
6. Setting up Angular
7. Tesing Authorization through Angular
8. Interception Filters
9. Guard Services
10. JWT implementation in Spring Boot app and calling from Angular app

Spring Microservices:
1. Monolithic
2. Disadvantages of Monolithic
3. Microservices
4. Advantages of Microservices
5. Developing helloworld Microservice
6. Open feign
7. Eureka server
8. Feign client with Eureka server
9. Spring cloud load balancer
10. Spring cloud API Gateway
11. Fault Tolerance
12. Circuit Breaker
13. Resilience4j & Spring AOP
14. Spring cloud config server
15. Sleuth
16. Zipkin
17. Rabbit MQ
18. Docker
19. Kubernetes

Java Script:

JS Introduction

JS Implementation

HTML Tags in Javascript

JS Comments

JS Variables
JS Variables (Let & Const)

JS Data Types

JS Arithmetic Operators

JS Assignment Operators

JS with Google Chrome Console

JS Comparison Operators

JS If Statement
JS Logical Operators

JS If Else Statement

JS If Else If Statement

JS Conditional Ternary Operator

JS Switch Case

JS Alert Box
JS Confirm Box

JS Prompt Box

JS Functions

JS Functions with Parameters

JS Functions with Return Value

JS Global & Local Variable

JS Events
JS While Loop
JS Do While Loop

JS For Loop

JS Break & Continue Statement

JS Even & Odd with Loops

JS Nested Loop

JavaScript Nested Loop - II

JS Arrays

JS Create Arrays Method - II

JS Multidimensional Arrays

JS Modify & Delete Array

JS Array Sort & Reverse

JS Array Pop & Push

JS Array Concat & Join

JS Array Slice & Splice

JS isArray

JS Array index
JS Array Includes
JS Array Some & Every

JS Array find & findIndex

JS Array Filter

JS Array Methods

JS forEach Loop

JS Objects

JS Objects - II
JS Array of Objects
JS Const Variable with Array & Objects

JS For in Loop

JS Map Method

JS String Methods

JS String Methods - II

JS Number Methods

JS Math Methods

JS Date Methods

JS Button

JS HTML DOM
JS DOM Introduction

JS DOM Targeting Methods
JS DOM Get & Set Value Methods

JS DOM querySelectors

JS DOM CSS Styling Methods

JS addEventListener Method

JS Forms

JS Form Events
JS Form Events - II

JS Effects

JS Interval

JS Timeout

JS Browser BOM

JS History Object

Angular:

1. Installation
2. Unins   tallation
3. Creating a project and understanding default code
4. Creating a component
5. Creating a component with different options
6. Creating a component without ng command
7. typescript datatypes and fields declaration
8. typescript methods declaration
9. typescript methods body development
10. access specifiers and constructor
11. bindings
12. directives
13. template variable
14. template driven forms
15. reactive forms

16. http client
17. routing
18. modular development
19. tyscript compiler
20. type assertion
21. arrow functions
22. advanced directives
23. http with template variables
24. one-to-one mapping
25. one-to-many mapping
26. many-to-many mapping

GIT:

Version control

    Introduction

    Uses

    Need

    Types

    Examples

    Realtime why when how we use.
Difference between types of version control

Introduction to git

Features of git/ why git/ benefits of git

Diagrammatic explanation of git

Introduction to git hub

Features of git hub/ why github/ benefits of github

Branching statagy in realtime environment

Instalation of git, git hub, tortoise git

Introduction to repository

Creating repository in github

Basic commands of git

How to execute commands in git

When to use which command

Flow of realtime work life with commands

Detail discussion on daily using commands

Conflicts in git

    When we will get

    How to avoid

    How to resolve

Raising pull request
Review comments and how to reply or address

How to merge codes

Create branches

Switch branches

Full understanding of realtime work flow with commands

Flow of jira interems of git

Realtime use of github and git.
How to practice to make familiar with these tools.

Internship:

LMS Proposal
1. Course Package CRUD operations (Like Java full stack)
2. Skill CRUD operations (Like Core Java)
3. Topic CRUD operations (OOPs concepts)
4. Subtopic CRUD Operations (Like Encapsulation)
5. Skills Mapping to Packages
6. Video Upload
7. Material Upload
8. MCQ Questions Upload
9. Students Registration (Signup and detailed form submission, view my profile, change my profile)

10. General admin activities

1. Login
2. Forgotten Password
3. Remember me
4. Change Password
5. Logout

11. Students mapping to packages

12. Student Dashboard

1. My Courses
2. My Notifications
3. My Unit exams
4. My Cumulative exams
5. My Certificates

13. Payment gate way integration.
14. Video player integration
15. Exams/Tests Platform

Technologies   :
Server side: Springboot with Data JPA and Spring Security and Backend as MySQL

Client Side : Angular