Full Stack assignment

Software Engineering Assignment

MODULE: 1 (SDLC)

- What is software? What is software engineering?
- Explain types of software
- What is SDLC? Explain each phase of SDLC
- What is DFD? Create a DFD diagram on Flipkart
- What is Flow chart? Create a flowchart to make addition of two numbers
- What is Use case Diagram? Create a use-case on bill payment on paytm.

MODULE: 2 (HTML)

- Define the terms: Website, Webpage, Web browser, Web server, HTML, CSS
- Create a webpage to show "This is my first HTML page"
- Display top 10 IT companies list in html webpage
- Create a dropdown list
- Create a Table Of college Management system using row span & col span.
- Create below table using HTML table tags

European Roulette

	3	6	9	12	15	18	21	24	27	30	33	36	2to1
0	2	5	8	11	14	17	20	23	26	29	32	35	2to1
	1	4	7	10	13	16	19	22	25	28	31	34	2to1

| 1st12 | 2nd12 | 3rd12 |
| 1to18 | EVEN | | | OOD | 19to36 |

- Create Registration form using HTML, CSS
- In how many ways can a CSS be integrated as a web page?
- Create simple three pages using External CSS, Internal CSS, and Inline CSS.
- Create below page using HTML CSS

Individual Registration

User Particulars

* Login ID

* Password

* Confirm Password

Personal Particulars

* Salutation Select ▾   * First Name

Middle Name   * Last Name

* Resident Status Select ▾   * Country Select ▾

* Email-Id   * Mobile Number

Account Particulars

* 15 Digit Account No   * Nick Name

* Fund Transfer Select ▾

DECLARATION

I have read, understood and hereby agree to the Terms and Conditions in respect of all products and channels.
I understand that any changes in the terms and conditions applicable to this relationship would be made available to me on request at any IOB branches. I confirm that all accounts under this login name are operated singly and in case of joint account operated by either or survivor / anyone or survivor(s) under his/her joint name respectively. I do hereby declare that information furnished in this form is true to the best of my knowledge and belief.

submit   Reset

- Create link-pseudo classes using external css, to format links on the pages.
- Create a dynamic pseudo class using HTML, CSS

MODULE: 3.1 (C Language Fundamental)

- Display This Information using printf
  1. Your Name
  2. Your Birth date
  3. Your Age
  4. Your Address
- Write a program to make Simple calculator (to make addition, subtraction, multiplication, division and modulo)
- WAP to find area of circle, rectangle and triangle
- WAP to find simple interest
- WAP to check if the given year is a leap year or not.
- WAP to convert years into days and days into years

MODULE: 3.2 (C Language Programing with C)

- WAP to make simple calculator (operation include Addition, Subtraction, Multiplication, Division, modulo)
- WAP to swap two numbers without using third variable
- WAP to find number is even or odd using ternary operator
- WAP to show
  1. Monday to Sunday using switch case
  2. Vowel or Consonant using switch case
- Looping programs:
  1. WAP to print 972 to 897 using for loop
  2. WAP to take 10 no. Input from user and find out …
  3. How many Even numbers are there
  4. How many odd numbers are there
  5. Sum of even numbers
  6. Sum of odd numbers WAP to print table up to given numbers

- WAP to print factorial of given number
- WAP to print Fibonacci series up to given numbers
- WAP to print number in reverse order e.g.: number = 64728 ---> reverse = 82746
- Write a program to find out the max from given number (E.g., No: -1562 Max number is 6)
- Write a program make a summation of given number (E.g., 1523 Ans: -11)
- Write a program you have to make a summation of first and last Digit. (E.g., 1234 Ans: -5)

Patterns:

```
1                A                        *                *
1 0              B C                  *  *  *            *  *
1 0 1            D E F             *  *  *  *  *         *  *  *
1 0 1 0          G H I J        *  *  *  *  *  *  *      *  *  *  *
1 0 1 0 1        K L M N O   *  *  *  *  *  *  *  *  *   *  *  *  *  *
                                                        *  *  *  *  *  *
                                                        *  *  *  *  *
1                      A                                 *  *  *  *
2  3                   A B                               *  *  *
4  5  6                A B C                             *  *
7  8  9  10            A B C D                           *
11 12 13 14 15         A B C D E
```

MODULE: 3.3 (File Handling and Debugging)

- Write a program to find out the max number from given array using function
- WAP of Addition, Subtraction, Multiplication and Division using Switch case.(Must Be Menu Driven)
- WAP to find reverse of string using recursion
- WAP to find factorial using recursion
- WAP to take two Array input from user and sort them in ascending or descending order as per user's choice

- WAP to make addition, Subtraction and multiplication of two matrix using 2-D Array
- WAP Find out length of string without using inbuilt function
- WAP to reverse a string and check that the string is palindrome or not
- Write a program of structure employee that provides the following information -print and display empno, empname, address and age
- Write a program of structure for five employee that provides the following information -print and display empno, empname, address and age
- WAP to show difference between Structure and Union.

MODULE: 4.1 (C++ Basic)

- WAP to print "Hello World" using C++
- What is OOP? List OOP concepts
- What is the difference between OOP and POP?

MODULE: 4.2 (Programing with C++)

- WAP to create simple calculator using class
- Define a class to represent a bank account. Include the following members:
  1. Data Member:

     -Name of the depositor

     -Account Number

     -Type of Account

     -Balance amount in the account

2. Member Functions

-To assign values

-To deposited an amount

-To withdraw an amount after checking balance

-To display name and balance

- Write a program to find the multiplication values and the cubic values using inline function
- Write a program of Addition, Subtraction, Division, Multiplication using constructor.
- Write a program of Addition, Subtraction, Division, Multiplication using constructor.
- Assume a class cricketer is declared. Declare a derived class batsman from cricketer. Data member of batsman. Total runs, Average runs and best performance. Member functions input data, calculate average runs, Display data. (Single Inheritance)
- Create a class person having members name and age. Derive a class student having member percentage. Derive another class teacher having member salary. Write necessary member function to initialize, read and write data. Write also Main function (Multiple Inheritance)
- Assume that the test results of a batch of students are stored in three different classes. Class Students are storing the roll number. Class Test stores the marks obtained in two subjects and class result contains the total marks obtained in the test. The class result can inherit the details of the marks obtained in the test and roll number of students. (Multilevel Inheritance)
- Write a program to Mathematic operation like Addition, Subtraction, Multiplication, Division Of two number using different parameters and Function Overloading
- Write a Program of Two 1D Matrix Addition using Operator Overloading
- Write a program to concatenate the two strings using Operator Overloading

- Write a program to calculate the area of circle, rectangle and triangle using Function Overloading
  - ➢ Rectangle: Area * breadth
  - ➢ Triangle: ½ *Area* breadth
  - ➢ Circle: Pi * Area *Area
- Write a program to swap the two numbers using friend function without using third variable
- Write a program to find the max number from given two numbers using friend function

MODULE: 4.2 (C, C++ Templates)

- Write a program of to swap the two values using templates
- Write a program of to sort the array using templates.

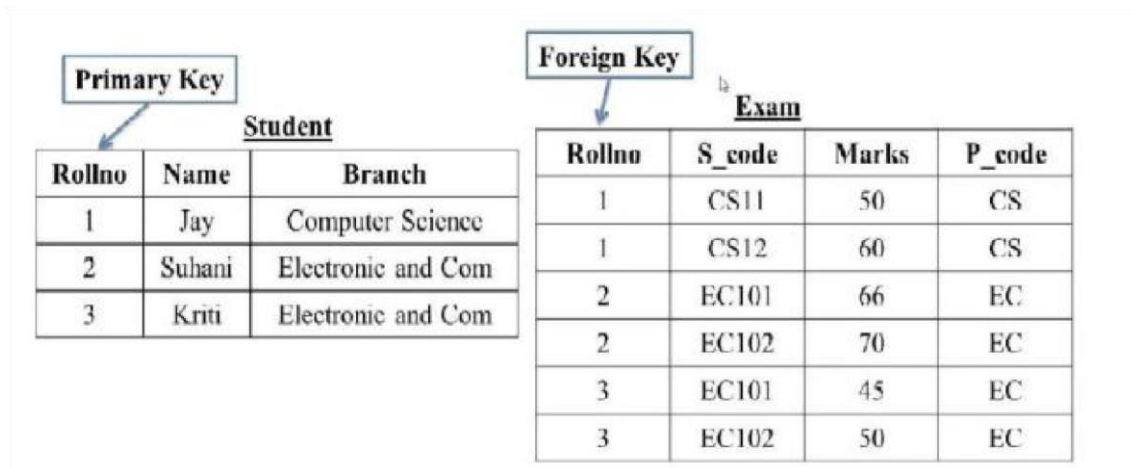# MODULE: 5 (Database)

- What do you understand By Database
- What is Normalization?
- What is Difference between DBMS and RDBMS?
- What is MF Cod Rule of RDBMS Systems?
- What do you understand By Data Redundancy?
- What is DDL Interpreter?
- What is DML Compiler in SQL?
- What is SQL Key Constraints writing an Example of SQL Key Constraints
- What is save Point? How to create a save Point write a Query?
- What is trigger and how to create a Trigger in SQL?

Task

1. Create Table Name : Student and Exam

Primary Key

Foreign Key

Student

Rollno	Name	Branch
1	Jay	Computer Science
2	Suhani	Electronic and Com
3	Kriti	Electronic and Com

Exam

Rollno	S_code	Marks	P_code
1	CS11	50	CS
1	CS12	60	CS
2	EC101	66	EC
2	EC102	70	EC
3	EC101	45	EC
3	EC102	50	EC

2. Create table given below

First Name	Last Name	Address	City	Age
Mickey	Mouse	123 Fantasy Way	Anaheim	73
Bat	Man	321 Cavern Ave	Gotham	54
Wonder	Woman	987 Truth Way	Paradise	39
Donald	Duck	555 Quack Street	Mallard	65
Bugs	Bunny	567 Carrot Street	Rascal	58
Wiley	Coyote	999 Acme Way	Canyon	61
Cat	Woman	234 Purrfect Street	Hairball	32
Tweety	Bird	543	Itotltaw	28

3. Create table given below: Employee and Incentive

Table Name: Employee

Employee_id	First_name	Last_name	Salary	Joining_date	Department
1	John	Abraham	1000000	01-JAN-13 12.00.00 AM	Banking
2	Michael	Clarke	800000	01-JAN-13 12.00.00 AM	Insurance
3	Roy	Thomas	700000	01-FEB-13 12.00.00 AM	Banking
4	Tom	Jose	600000	01-FEB-13 12.00.00 AM	Insurance
5	Jerry	Pinto	650000	01-FEB-13 12.00.00 AM	Insurance
6	Philip	Mathew	750000	01-JAN-13 12.00.00 AM	Services
7	TestName1	123	650000	01-JAN-13 12.00.00 AM	Services
8	TestName2	Lname%	600000	01-FEB-13 12.00.00 AM	Insurance

Table Name: Incentive

Employee_ref_id	Incentive_date	Incentive_amount
1	01-FEB-13	5000
2	01-FEB-13	3000
3	01-FEB-13	4000
1	01-JAN-13	4500
2	01-JAN-13	3500

a) Get First_Name from employee table using Tom name "Employee Name".
b) Get FIRST_NAME, Joining Date, and Salary from employee table.

c) Get all employee details from the employee table order by First_Name Ascending and Salary descending?

d) Get employee details from employee table whose first name contains 'J'.

e) Get department wise maximum salary from employee table order by salary ascending?

f) Select first_name, incentive amount from employee and incentives table for those employees who have incentives and incentive amount greater than 3000

g) Create After Insert trigger on Employee table which insert records in view table

4. Create table given below: Salesperson and Customer

TABLE-1

TABLE NAME- SALSEPERSON

(PK)SNo	SNAME	CITY	COMM
1001	Peel	London	.12
1002	Serres	San Jose	.13
1004	Motika	London	.11
1007	Rafkin	Barcelona	.15
1003	Axelrod	New York	.1

TABLE-2

TABLE NAME- CUSTOMER

(PK)CNM.	CNAME	CITY	RATING	(FK)SNo
201	Hoffman	London	100	1001
202	Giovanne	Roe	200	1003
203	Liu	San Jose	300	1002
204	Grass	Barcelona	100	1002
206	Clemens	London	300	1007
207	Pereira	Roe	100	1004

Retrieve the below data from above table

a) All orders for more than $1000.

b) Names and cities of all salespeople in London with commission above 0.12

c) All salespeople either in Barcelona or in London

d) All salespeople with commission between 0.10 and 0.12. (Boundary values should be excluded).

e) All customers excluding those with rating <= 100 unless they are located in Rome
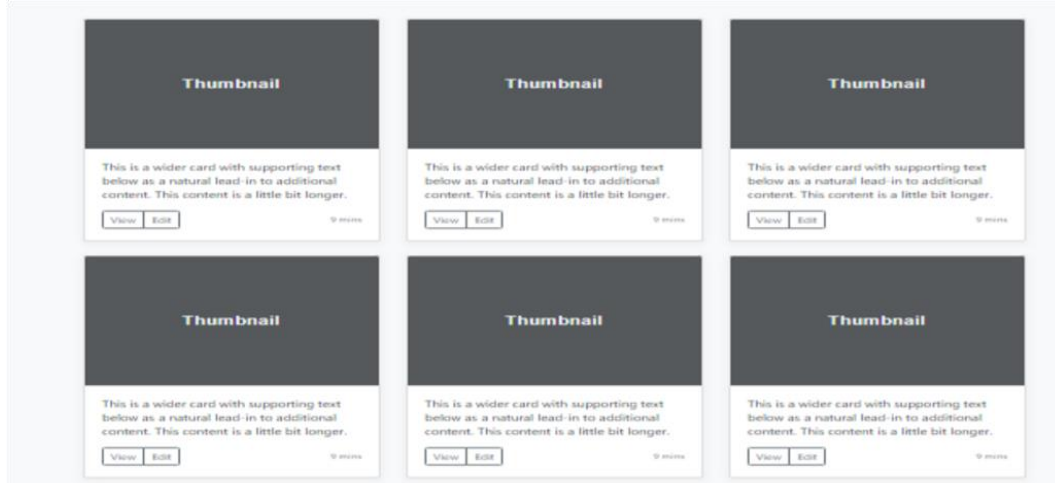
Web Designing Assignment

Term-1

Module (HTML) -1

- Are the HTML tags and elements the same thing?
- What are tags and attributes in HTML?
- What are void elements in HTML?
- What are HTML Entities?
- What are different types of lists in HTML?
- What is the 'class' attribute in HTML?
- What is the difference between the 'id' attribute and the 'class' attribute of HTML elements?
- What are the various formatting tags in HTML?
- How is Cell Padding different from Cell Spacing?
- How can we club two or more rows or columns into a single row or column in an HTML table?
- What is the difference between a block-level element and an inline element?
- How to create a Hyperlink in HTML?
- What is the use of an iframe tag?
- What is the use of a span tag? Explain with example?
- How to insert a picture into a background image of a web page?
- How are active links different from normal links?
- What are the different tags to separate sections of text?
- What is SVG?
- What is difference between HTML and XHTML?
- What are logical and physical tags in HTML?

Module (CSS and CSS 3) -2

- What are the benefits of using CSS?

- What are the disadvantages of CSS?

- What is the difference between CSS2 and CSS3?

- Name a few CSS style components

- What do you understand by CSS opacity?

- How can the background color of an element be changed?

- How can image repetition of the backup be controlled?

- What is the use of the background-position property?

- Which property controls the image scroll in the background?

- Why should background and color be used as separate properties?

- How to center block elements using CSS1?

- How to maintain the CSS specifications?

- What are the ways to integrate CSS as a web page?

- What is embedded style sheets?

- What are the external style sheets?

- What are the advantages and disadvantages of using external style sheets?

- What is the meaning of the CSS selector?

- What are the media types allowed by CSS?

- What is the rule set?

- Create Layouts

Module (HTML5) – 3

- What are the new tags added in HTML5?

- How to embed audio and video in a webpage?

- Semantic element in HTML5?

- Canvas and SVG tags

Module (JAVASCRIPT BASIC & DOM) – 4

- What is JavaScript?
- What is the use of isNaN function?
- What is negative Infinity?

- Which company developed JavaScript?
- What are undeclared and undefined variables?
- Write the code for adding new elements dynamically?
- What is the difference between ViewState and SessionState?
- What is === operator?
- How can the style/class of an element be changed?
- How to read and write a file using JavaScript?
- What are all the looping structures in JavaScript?
- How can you convert the string of any base to an integer in JavaScript?
- What is the function of the delete operator?
- What are all the types of Pop up boxes available in JavaScript?
- What is the use of Void (0)?
- How can a page be forced to load another page in JavaScript?
- What are the disadvantages of using innerHTML in JavaScript?

Module (JQuery Basic, Effects & Advanced) – 5

- What is jQuery?
- How to Apply CSS Using JQuery, How to Add Class and Remove Class in Jquery , JQuery Animation?
- How to create slider with animation?

Module (Bootstrap Basic & Advanced) – 6

- What are the advantages of Bootstrap?

- What is a Bootstrap Container, and how does it work?

- What are the default Bootstrap text settings?

- What do you know about the Bootstrap Grid System?

- What is the difference between Bootstrap 4 and Bootstrap 5

- What is a Button Group, and what is the class for a basic Button Group?

- How can you use Bootstrap to make thumbnails?

- In Bootstrap 4, what is flexbox?

- How can one create an alert in Bootstrap?

- What is a bootstrap card and how would you create one?

Richard Taylor

Some example text.

See Profile

Advance JavaScript

MODULE: 1 (Introduction and Code Quality)

- Write a program to Show an alert
- What will be the result for these expressions?

  1. 5 > 4
  2. "apple" > "pineapple"
  3. "2" > "12"
  4. undefined == null
  5. undefined === null
  6. null == "\n0\n"

     7. 7. null === +"\n0\n"

- Will alert be shown?

  if ("0") { alert('Hello'); }

- What is the code below going to output? alert(null || 2 || undefined);
- The following function returns true if the parameter age is greater than 18. Otherwise it asks for a confirmation and returns its result:

  function

  checkAge(age)

  {

  if (age> 18) { return true; }

  else {

  // ...return confirm ('did parents allow you?');

  }

  }

- Replace Function Expressions with arrow functions in the code below:
  Function

  ask(question, yes, no)

```
{ if (confirm(question))yes();

        else

        no();

}
ask("Do you agree?", function()

 { alert("You agreed."); },

function() {

                alert("You canceled the execution."); }

    }
```

MODULE: 2 (Data Types and Objects)

● Write the code, one line for each action:
a) Create an empty object user.
b) Add the property name with the value John.
c) Add the property surname with the value Smith.
d) Change the value of the name to Pete.
e) Remove the property name from the object.

● Is array copied?

let fruits = ["Apples", "Pear", "Orange"]; // push a new value into the "copy" let shoppingCart = fruits; shoppingCart.push("Banana"); // what's in fruits?

alert(fruits.length); // ?

● Map to names

let john = { name: "John", age: 25 }; let pete = { name: "Pete", age: 30 }; let mary = { name: "Mary", age: 28 }; let users = [john, pete, mary]; let names = /* ... your code */ alert(names); // John, Pete, Mary

● Map to objects

let john = { name: "John", surname: "Smith", id: 1 }; let pete = { name: "Pete", surname: "Hunt", id: 2 }; let mary = { name: "Mary", surname: "Key", id: 3 }; let users = [john, pete, mary]; let usersMapped = /* ... your code ... */

```
/*

usersMapped = [

  { fullName: "John Smith", id: 1 },

  { fullName: "Pete Hunt", id: 2 },

  { fullName: "Mary Key", id: 3 }

]

*/ alert( usersMapped[0].id ) // 1 alert( usersMapped[0].fullName ) // John Smith
```

- Sum the properties There is a salaries object with arbitrary number of salaries. Write the function sumSalaries(salaries) that returns the sum of all salaries using Object.values and the for..of loop.If salaries is empty, then the result must be 0.

```
let salaries = {

        "John": 100,

        "Pete": 300,

        "Mary": 250

        };

alert( sumSalaries(salaries) ); // 650
```

- Destructuring assignment We have an object: Write the Destructuring assignment that reads:
    a) Name property into the variable name.
    b) Year's property into the variable age.
    c) isAdmin property into the variable isAdmin (false, if no such property)
    d) let user = { name: "John", years: 30};

- Turn the object into JSON and back Turn the user into JSON and then read it back into another variable.

```
 user = { name: "John Smith", age: 35};
```

MODULE: 3 (Document, Event and Controls)

- Create a program to hide/show the password
- Create a program that will select all the classes and loop over and whenever i click the button the alert should show
- Create a responsive header using proper JavaScript
- Create a form and validate using JavaScript
- Create a modal box using css and Js with three buttons
- Use external js library to show slider
- Prevent the browser when i click the form submit button

MODULE: 4 (New Request)

- What is JSON
- What is promises
- Write a program of promises and handle that promises also
- Use fetch method for calling an api https://fakestoreapi.com/products
- Display all the product from the api in your HTML page

React Js Assignments

Module -1

- HTML–CSS Login Registration page

Module – 2 Advance JavaScript

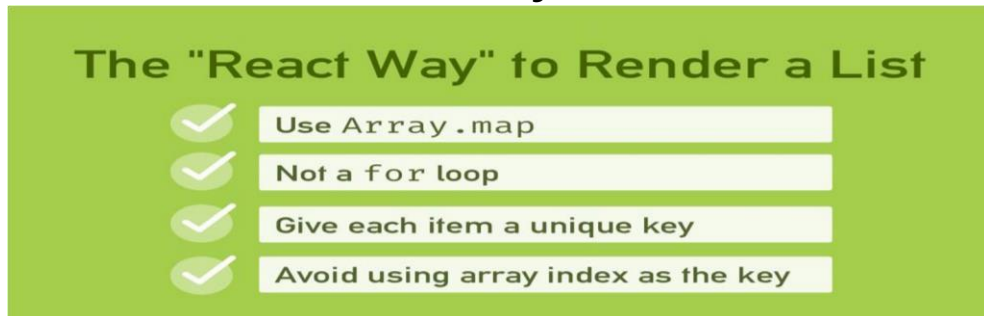- Calculate subtotal price of quantity in JavaScript?

- What is JavaScript Output method?

- How to used JavaScript Output method?

- How to used JavaScript Events to do all examples?

Module – 3 ReactJs

- What is React Js?
- What is NPM in React Js?
- What is Role of Node Js in react Js?
- What is CLI command In React Js?
- What is Components in React Js?
- What is Header and Content Components in React Js?
- How to install React Js on Windows, linux Operating System? How to install NPM and How to check version of NPM?

- How to check version of React Js?
- How to change in components of React Js?
- How to Create a List View in React Js?

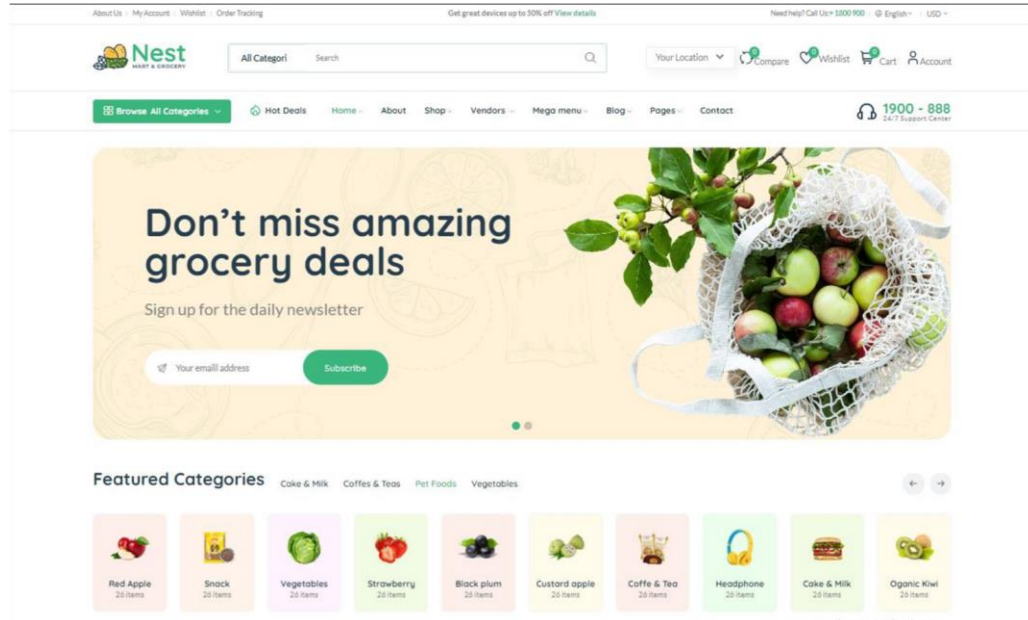- Create Increment decrement state change by button click?

\

Module – 4 Lists and Hooks

- Explain Life cycle in Class Component and functional component with Hooks

Module-5) React - Styling & Advance React

- Create Shopping site home page with Styled– component

Module 6) React Router

- Create React app with modules and lazy loading (Admin-user module with child router and outlet)

Module-7) React - Applying Redux

- What is Redux?

- What is Redux Thunk used for?

- What is Pure Component? When to use Pure Component over Component?

- What is the second argument that can optionally be passed tosetState and what is its purpose?

- Create a Table and Search data from table using React Js ?

- Create Login registration with CRUD Application using API (Redux)

Java Assignments

Module – 2 (Core Java)

- Write a Java program to Take three numbers from the user and print the greatest number.
- Write a Java program that takes the user to provide a single character from the alphabet. Print Vowel or Consonant, depending on the user input. If the user input is not a letter (between a and z or A and Z), or is a string of length > 1, print an error message.
- Write a Java program that takes a year from user and print whether that year is a leap year or not. B19. Write a program in Java to display the first 10 natural numbers using while loop.
- Write a program in Java to input 5 numbers from keyboard and find their sum and average using for loop.
- Write a program in Java to display the pattern like right angle triangle with a number.

1

12

123

1234

12345

- Write a program in Java to make such a pattern like right angle triangle with number increased by 1 The pattern like:

1

2 3

4 5 6

7 8 9 10

- Write a Java program that reads a positive integer and count the number of digits the number.

Input an integer number less than ten billion: 125463

Number of digits in the number: 6

- Write a Java program to count the letters, spaces, numbers and other characters of an input string.

- Write a Java program to print the ASCII value of a given character.

- Write a Java program that accepts an integer (n) and computes the value of n+nn+nnn. Input number: 5

5 + 55 + 555

- Write a Java program to display the system time.

- Write a Java program to print numbers between 1 to 100 which are divisible by 3, 5 and by both.

- W.A.J.P to get the character at the given index within the String. Original String = Tops Technologies! The character at position 0 is T, The character at position 10 is o

- W.A.J.P to concatenate a given string to the end of another string.

- W.A.J.P to compare a given string to the specified character sequence. Comparing topsint.com and topsint.com: true Comparing Topsint.com and topsint.com: false

- W.A.J.P to check whether a given string ends with the contents of another string. "Java Exercises" ends with "se"? False "Java Exercise" ends with "se"? True

- W.A.J.P to check whether a given string starts with the contents of another string. Red is favorite color. Starts with Red? True Orange is also my favorite color. Starts with Red? False I3.

- W.A.J.P to find all interleaving of given strings.

The given strings are: WX YZ

The interleaving strings are: YWZX WYZX YWXZ WXYZ YZWX WYXZ

- W.A.J.P to find the second most frequent character in a given string. The given string is: successes The second most frequent char in the string is: c

- Create a class named 'Print Number' to print various numbers of different data types by creating different methods with the same name 'printn' having a parameter for each data type.

- Create a class to print an integer and a character with two methods having the same name but different sequence of the integer and the character parameters. For

example, if the parameters of the first method are of the form (int n, char c), then that of the second method will be of the form (char c, int n).

- Create a class to print the area of a square and a rectangle. The class has two methods with the same name but different number of parameters. The method for printing area of a rectangle has two parameters which are length and breadth respectively while the other method for printing area of square has one parameter which is side of square.

- Create a class with a method that prints "This is a parent class" and its subclass with another method that prints "This is child class". Now, create an object for each of the class and call 1 - method of parent class by object of parent class 2 - method of child class by object of child class 3 - method of parent class by object of child class

- Create a class named 'Member' having the following members:

  1. Data members
  2. Name
  3. Age
  4. Phone number
  5. Address
  6. Salary

It also has a method named 'printSalary' which prints the salary of the members.

- Create a class named 'Rectangle' with two data members 'length' and 'breadth' and two methods to print the area and perimeter of the rectangle respectively. Its constructor having parameters for length and breadth is used to initialize the length and breadth of the rectangle. Let class 'Square' inherit the 'Rectangle' class with its constructor having a parameter for its side (suppose s) calling the constructor of its parent class as 'super (s, s)'. Print the area and perimeter of a rectangle and a square.

- Write a program to print the area and perimeter of a triangle having sides of 3, 4 and 5 units by creating a class named 'Triangle' without any parameter in its constructor.

- Print the sum, difference and product of two complex numbers by creating a class named 'Complex' with separate methods for each operation whose real and imaginary parts are entered by user.

- Create an abstract class 'Parent' with a method 'message'. It has two subclasses each having a method with the same name 'message' that prints "This is first subclass" and "This is second subclass" respectively. Call the methods 'message' by creating an object for each subclass.

- Create an abstract class 'Bank' with an abstract method 'getBalance'. $100, $150 and $200 are deposited in banks A, B and C respectively. 'BankA', 'BankB' and 'BankC'

are subclasses of class 'Bank', each having a method named 'getBalance'. Call this method by creating an object of each of the three classes.

- We have to calculate the percentage of marks obtained in three subjects (each out of 100) by student A and in four subjects (each out of 100) by student B. Create an abstract class 'Marks' with an abstract method 'getPercentage'. It is inherited by two other classes 'A' and 'B' each having a method with the same name which returns the percentage of the students. The constructor of student A takes the marks in three subjects as its parameters and the marks in four subjects as its parameters for student B. Create an object for each of the two classes and print the percentage of marks for both the students.

- Write a program to print the factorial of a number by defining a method named 'Factorial'. Factorial of any number n is represented by n! And is equal to 1*2*3*.*(n-1) *n. E.g.-

4! = 1*2*3*4 = 24

3! = 3*2*1 = 6

2! = 2*1 = 2

Also, 1! = 1

0! = 0

- We have to calculate the area of a rectangle, a square and a circle. Create an abstract class 'Shape' with three abstract methods namely 'RectangleArea' taking two parameters, 'SquareArea' and 'CircleArea' taking one parameter each. The parameters of 'RectangleArea' are its length and breadth, that of 'SquareArea' is its side and that of 'CircleArea' is its radius. Now create another class 'Area' containing all the three methods 'RectangleArea', 'SquareArea' and 'CircleArea' for printing the area of rectangle, square and circle respectively. Create an object of class 'Area' and call all the three methods. I3. Write a program which will ask the user to enter his/her marks (out of 100). Define a method that will display grades according to the marks entered as below:

Marks Grade

Marks	Grade
1-100	A
1-90	B
1-80	B
1-70	C
1-60	D
41-50	DD

40   Fail

- Create a class named 'Shape' with a method to print "This is this is shape". Then create two other classes named 'Rectangle', 'Circle' inheriting the Shape class, both having a method to print "This is rectangular shape" and "This is circular shape" respectively. Create a subclass 'Square' of 'Rectangle' having a method to print "Square is a rectangle". Now call the method of 'Shape' and 'Rectangle' class by the object of 'Square' class.
- W.A.J. P to demonstrate try catch block,
- Take two numbers from the user and perform the division operation and handle Arithmetic Exception. O/P- Enter two numbers: 10 0

Exception in thread main java.lang.ArithmeticException:/ by zero

- W.A.J. P to demonstrate multiple catch blocks, (one is to handle divide by zero exception and another one is to handle

ArrayIndexOutOfBoundException)   int a [] =new int [5]; a [5]=30/0;

- W.A.J. P to implement the above program (pro.no-B27) using nesting of try-catch block. try {

try

{//code}

catch (Exception e)

{//code}

catch (Exception e)

{//code}

- W.A.J. P to demonstrate try catch block, take two numbers from the user by Command line argument and perform the division operation and handle Arithmetic

O/P-

Exception in thread main java. Lang. Arithmetic Exception:/ by zero

- W.A.J.P to create the validate method that takes integer value as a parameter. If the age is less than 18, then throw an Arithmetic Exception otherwise print a message welcome to vote.

O/P- Enter your age: 16

Exception in thread main java. Lang. Arithmetic Exception: not valid

- W.A.J.P to create a custom exception if Customer withdraw amount which is greater than account balance then program will show custom exception otherwise amount

will deduct from account balance. Account balance is: 2000 Enter withdraw amount: 2500

Sorry, insufficient balance, you need more 500 Rs. To perform this transaction.

- W.A.J.P to create a class Student with attributes roll no, name, age and course. Initialize values through parameterized constructor. If age of student is not in between 15 and 21 then generate user defined exception "AgeNotWithinRangeException". If name contains numbers or special symbols raise exception "NameNotValidException". Define the two exception classes.
- W.A.J. P to create one thread by implementing Runnable interface in

Class.

- W.A.J. P to create one thread by extending Thread class in another Class.
- W.A.J.P to create 2 threads and execute that threads by providing sleep time as 2000ms and check the execution.
- W.A.J.P to start the same Thread twice by calling start () method twice. Test ThreadTwice1 t1=new TestThreadTwice1(); t1.start (); t1.start ();
- W.A.J.P to create 2 threads and make one thread as Daemon Thread by using set Daemon () method of Thread class and check whether the thread is set daemon or not by using is Daemon () method.

  TestDaemonThread2 t1=new TestDaemonThread2();

  TestDaemonThread2 t2=new TestDaemonThread2(); t1.start();

  t1.setDaemon(true);//will throw exception here t2.start();

Write a Java program to create a new array list, add some colors (string) and print out the collection.

- Write a Java program to iterate through all elements in an array list.
- Write a Java program to insert an element into the array list at the first position.
- Write a Java program to retrieve an element (at a specified index) from a given array list.
- Write a Java program to update specific array element by given element.
- Write a Java program to remove the third element from an array list.
- Write a Java program to search an element in an array list.
- Write a Java program to sort a given array list.
- Write a Java program to copy one array list into another.
- Write a Java program to shuffle elements in an array list.
- Write a Java program to append the specified element to the end of a hash set.

- Write a Java program to iterate through all elements in a hash list.
- Write a Java program to get the number of elements in a hash set.
- Write a Java program to associate the specified value with the specified key in a Hash Map.
- Write a Java program to count the number of key-value (size) mappings in a map.
- Write a Java program to reverse elements in an array list.
- Write a Java program to extract a portion of an array list.
- Write a Java program to compare two array lists.
- Write a Java program of swap two elements in an array list.
- Write a Java program to join two array lists.
- Write a Java program to convert a hash set to an array.
- Write a Java program to convert a hash set to a List/Array List.
- Write a Java program to check whether a map contains key-value mappings (empty) or not.
- Write a Java program to increase the size of an array list.
- Write a Java program to replace the second element of an Array List with the specified element.
- Write a Java program to print all the elements of an Array List using the position of the elements.
- Write a Java program to compare two sets and retain elements which are same on both sets.
- Write a Java program to get a collection view of the values contained in this map.

Module –3 (RDBMS & Database Programming With JDBC)

Field	Type	Null	Key	Default
Empno	int(4)	NO	PRI	0
Ename	varchar(10)	YES		(NULL)
Job	varchar(9)	YES		(NULL)
Mgr	int(4)	YES		(NULL)
Hiredate	date	YES		(NULL)
Sal	decimal(7,2)	YES		(NULL)
Comm	decimal(7,2)	YES		(NULL)
Deptno	int(2)	YES	MUL	(NULL)

DEPT TABLE:

Field	Type	Null	Key	Default
Deptno	int(2)	NO	PRI	0
Dname	varchar(14)	YES		(NULL)
Loc	varchar(13)	YES		(NULL)

STUDENT TABLE:

Field	Type	Null	Key	Default
Rno	int(2)	NO	PRI	0
Sname	varchar(14)	YES		(NULL)
City	varchar(20)	YES		(NULL)
State	Varchar(20)	YES		(NULL)

EMP_LOG TABLE:

Field	Type	Null	Key	Default
Emp_id	int(5)	NO		(NULL)

Log_date	Date	YES		(NULL)
New_salary	Int(10)	YES		(NULL)
Action	Varchar(20)	YES		(NULL)

DEPT TABLE DATA:

Deptno	dname	loc
10	ACCOUNTING	NEW YORK
20	RESEARCH	DALLAS
30	SALES	CHICAGO
40	OPERATIONS	BOSTON

EMP TABLE DATA:

Empno	ename	job	mgr	hiredate	sal	comm	deptno
7369	SMITH	CLERK	7902	1980-12-17	800.00	(NULL)	20
7499	ALLEN	SALESMAN	7698	1981-02-20	1600.00	300.00	30
7521	WARD	SALESMAN	7698	1981-02-22	1250.00	500.00	30
7566	JONES	MANAGER	7839	1981-04-02	2975.00	(NULL)	20
7654	MARTIN	SALESMAN	7698	1981-09-28	1250.00	1400.00	30
7698	BLAKE	MANAGER	7839	1981-05-01	2850.00	(NULL)	30
7782	CLARK	MANAGER	7839	1981-06-09	2450.00	(NULL)	10
7788	SCOTT	ANALYST	7566	1987-06-11	3000.00	(NULL)	20
7839	KING	PRESIDENT	(NULL)	1981-11-17	5000.00	(NULL)	10
7844	TURNER	SALESMAN	7698	1981-08-09	1500.00	0.00	30
7876	ADAMS	CLERK	7788	1987-07-13	1100.00	(NULL)	20

7900	JAMES	CLERK	7698	1981-03-12	950.00	(NULL)	30
7902	FORD	ANALYST	7566	1981-03-12	3000.00	(NULL)	20
7934	MILLER	CLERK	7782	1982-01-23	1300.00	(NULL)	10

i.   Select unique job from EMP table.

ii.   List the details of the emps in asc order of the Dptnos and desc of Jobs?

iii.   Display all the unique job groups in the descending order?

iv.   List the emps who joined before 1981.

v.   List the Empno, Ename, Sal, Daily sal of all emps in the asc order of Annsal.

vi.   List the Empno, Ename, Sal, Exp of all emps working for Mgr 7369.

vii.   Display all the details of the emps who's Comm. Is more than their Sal?

viii.   List the emps who are either 'CLERK' or 'ANALYST' in the Desc order.

ix.   List the emps Who Annual sal ranging from 22000 and 45000.

x.   List the Enames those are starting with 'S' and with five characters.

xi.   List the emps whose Empno not starting with digit78.

xii.   List all the Clerks of Deptno 20.

xiii.   List the Emps who are senior to their own MGRS.

xiv.   List the Emps of Deptno 20 who's Jobs are same as Deptno10.

xv.   List the Emps who's Sal is same as FORD or SMITH in desc order of Sal.

xvi.   List the emps whose jobs same as SMITH or ALLEN.

xvii.   Any jobs of deptno 10 those that are not found in deptno 20.

xviii.   Find the highest sal of EMP table.

xix.   Find details of highest paid employee.

xx.   Find the total sal given to the MGR.

xxi.   List the emps whose names contains 'A'.

xxii.   Find all the emps who earn the minimum Salary for each job wise in ascending order.

xxiii.   List the emps whose sal greater than Blake's sal.

xxiv.   Create view v1 to select ename, job, dname, loc whose deptno are same.

xxv.   Create a procedure with dno as input parameter to fetch ename and dname.

xxvi.   Add column Pin with bigint data type in table student.

xxvii. Modify the student table to change the sname length from 14 to 40. Create trigger to insert data in emp_log table whenever any update of sal in EMP table. You can set action as 'New Salary'.

2. Write swing example with database connectivity to achieve the following.

Module – 4 (Web Technologies in Java)

- Write a Java program to fetch data from web.xml to Servlet using ServletConfig.
- Write a Java program to fetch data from web.xml to Servlet using ServletCotext.
- Write a Java program to submit student information (fname, lname, email, mobile, gender, password) using jsp form to servlet. Fetch data at servlet and print all the data in console.
- Write above Java program and print fetched data on another jsp using expression language.
- Write a Java program to fetch all the data from database table and print on jsp page using JSTL SQL tag library.
- Write a Java program to validate jsp form server side.

First Name: Only Alphabets Last Name: Only Alphabets Mobile: Only 10 Numbers Email: Standard Email Id

Password: Minimum One 1 Upper, Minimum 1 Lower, Minimum 1 Digit, Minimum 1 Special Character from @, #, $, %, _, & I2. Write CRUD operation using jsp only.

- Write a jsp/servlet CRUD operation for following.

Student:

a. Int id;(primary key, Auto Increment)

b. String fname, lname, email, mobile, gender, password;

c. Need to use bootstrap responsive template for the same.

d. Use client side validation to for all data input.

e. Use regular expression for email for standard email input.

f. Use regular expression for password like(Test@123)

g. Use server side validation (Filter) same as client side validation.

h. All the inserted data should be show in show.jsp with edit and delete functionality.

i. Store all the deleted record in table named deleted data.

- Write a Java dynamic application "Message Passing System "using MVC and JDBC.

User:

Int uid ;(primary key, auto increment)

String fname, lname, email, mobile; Message:

Int uid;

String from, to, msg;

- • Create one registration form to register user.
    - i. Do client and server side validation. o Use AJAX to register with unique email id.
    - ii. After successful registration confirmation email should be sent to user's email id with one OTP.
    - iii. Verify OTP and then and then allowed to login to the user. o After successful login user can edit their profile.
    - iv. Also one user can send some msg to another user using their email id.
    - v. When another user logged in they are able to see msg sent by a particular user and also can reply.
    - vi. Logout button is there to invalidate session.
    - vii. Also take care when user logged out and press back button on browser then it should be in logged out mode.

- • W.A.J.P to insert below data from jsp to MySQL database using ". cfg.cml" and ". hbm.xml" file. Variable id must be primary key and auto increment

Int id

String first name, last name, email, mobile, password, gender

- • W.A.J.P using above configuration with annotation and also show login jsp after data insert or registration.
- • Write above Java program for after successful registration student can login and if login credentials are correct then show student's home page with his/her detail.
- • Write above Java program for after successful login student can able to view and edit his/her profile with logout option. Also need to upload and show student's picture on his/her profile's home page.

All the Questions Below Need to Perform Using Some Bootstrap

Design Templates "

- • Write a program to establish One to One Relationship between given 2 classes and perform a CRUD operation.

Student:

Int studentId; String studentName; Address; Address: Int addressId;

String street, city, state, zip code;

• Write a program to establish one to many and Many to One relationship between given 2 classes and perform a CRUD operation.

Cart:

int cartId; double total;

String name; Set<Item> items;

   Items:

Int id;

String itemId;

Double itemTotal;

Int quantity;

Cart cart;

• Write a program to establish many to many relationships between given 2 classes and perform a CRUD operation.

Reader:

Int readerId;

String email, firstName, lastName;

Set<Subscription> subscriptions; Subscription: Int subscriptionId;

String subscriptionName; Set<Reader> readers;

Module – 5 (Rest Framework)

- Write a program to demonstrate the setter based dependency injection.
- Write a program to demonstrate the constructor based dependency injection.
- Write a program to demonstrate the object based dependency injection and also implement inner bean concept in your spring beans configuration file.
- Write a program to collect 5 student information using spring collection(List) in spring bean configuration file.

Student:

Int id;

String fname, lname, email, mobile.

- Write a Spring ORM application to demonstrate following things.
1. Need to use bootstrap template.
2. There will be 2 modules. User and Admin.
3. User (id, firstname, lastname, email, mobile, password, gender, profile_pic) have to register to the site. (registration.jsp)
4. Then user have to login(login.jsp) and can able to edit profile like email, mobile or profile_pic.
5. Admin can login to the site and able see all the user registered with system and also able to delete profile of a user.

- Write a Spring MVC+ORM application to demonstrate the following

things.

1. Add user with validation.
2. On clicking Query display single user data.
3. Update is for changes in user data.
4. Delete data.
5. Use bootstrap for UI part.