**Institute of Computer Technology**

**B. Tech. Computer Science and Engineering**

**Semester: IV**

**Sub: Front End Technologies**

**Course Code: 2CSE410**

**Practical Definition: To learn about control structure like (if condition, if-else condition, nested if-else condition, else-if ladder condition, and switch case condition using JavaScript).**

Q. 1. Make an appropriate program using JavaScript, where you have to find the addition, subtraction, multiplication, and division of any random two number.

**Note:1: Perform this program by using direct and indirect value initialization process in variable**

Code:-

// Direct Initialization

var a=50;

var b=2;

console.log("Addition:",a+b);

console.log("Subtraction:",a-b);

console.log("Multiplication:",a\*b);

console.log("Division:",a/b);

console.log("Modulo:",a%b);

Output:-

A screenshot of a computer program

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//Indirect Initialization

var num1,num2;

var sum=0,mul=0,sub=0,div=0;

num1=parseInt(prompt("Enter The Number 1:"));

num2=parseInt(prompt("Enter The Number 2:"));

sum=num1+num2;

console.log(sum);

sub=num1-num2;

console.log(sub);

mul=num1\*num2;

console.log(mul);

div=num1/num2;

console.log(div);

Output:-

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Note:2: Perform this program by using switch case condition also.

Code:-

//Using Switch case

var num1, num2, operation;

num1 = parseInt(prompt("Enter The Number 1:"));

num2 = parseInt(prompt("Enter The Number 2:"));

operation = prompt("Enter operation: add, subtract, multiply, divide:-");

switch (operation) {

case "add":

console.log("Sum: " + (num1 + num2));

break;

case "subtract":

console.log("Subtraction: " + (num1 - num2));

break;

case "multiply":

console.log("Multiplication: " + (num1 \* num2));

break;

case "divide":

if (num2 !== 0) {

console.log("Division: " + (num1 / num2));

} else {

console.log("Error: Division by zero is not allowed");

}

break;

default:

console.log("Invalid operation");

}

Output:-

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Q.2. Write an appropriate program in JavaScript, where you have to read any random three number from user. Find out highest one number among given three user inputted number.

Code:-

//Greater Than Three Number

var num1=0,num2=0,num3=0;

num1=parseInt(prompt("Enter the number 1:"));

num2=parseInt(prompt("Enter the number 2:"));

num3=parseInt(prompt("Enter the number 3:"));

if(num1>num2 && num1>num3){

console.log("Number 1 is Greatest:"+num1);

}

else if(num2>num1 && num2>num3){

console.log("Number 2 is Greatest:"+num2);

}

else{

console.log("Number 3 is Greatest:"+num3);

}

Output:-

A number on a white background

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Q.3. Write an appropriate program in JavaScript, where you have to read any random three number from user. Find out lowest one number among given three user inputted number by

using ternary operator.

Code:-

var num1 = parseInt(prompt("Enter the number 1:"));

var num2 = parseInt(prompt("Enter the number 2:"));

var num3 = parseInt(prompt("Enter the number 3:"));

var smallest = (num1 < num2 && num1 < num3) ? num1 : (num2 < num1 && num2 < num3) ? num2 : num3;

console.log("The smallest number is: " + smallest);

Output:-

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Q.4. Demonstrate one program in JS, where you have to accept basic salary from user, and as per the

basic salary you have to find hra, da, gross salary, pf, and net salary as per the following percentage.

da= 10% of basic salary

hra=20% of basic salary

gross salary=basic salary+da+hra

pf=5 % of gross salary.

net salary= gross salary – pf

Code:-

var salary = 0.00;

var da = 0.00, hra = 0.00, gross = 0.00, pf = 0.00, net = 0.00;

salary = parseFloat(prompt("Enter The Salary:"));

da = salary \* 0.10;

hra = salary \* 0.20;

gross = salary + da + hra;

pf = gross \* 0.05;

net = gross - pf;

console.log("DA:", da);

console.log("HRA:", hra);

console.log("Gross Salary:", gross);

console.log("PF:", pf);

console.log("Net Salary:", net);

Output:-

A screenshot of a computer

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Note: Perform this program by using form design also, where you have to read basic salary from user in form text box, and all other calculation should be display on respective text field on button click

event.

Code(form.html):-

<html lang="en">

<head>

<meta charset="UTF-8">

<meta name="viewport" content="width=device-width, initial-scale=1.0">

<title>Basic Salary Calculation</title>

<link rel="stylesheet" href="style.css">

</head>

<body>

<h1>Basic Salary Calculation</h1>

<form>

<label for="salary">Salary:</label>

<input type="number" id="salary" name="Salary"><br><br>

<label for="da">DA:</label>

<input type="number" id="da" name="DA"><br><br>

<label for="hra">HRA:</label>

<input type="number" id="hra" name="HRA"><br><br>

<button onclick="performOperation()">Submit</button><br><br>

<input type="text" id="grossSalary" readonly placeholder="Gross Of Basic Salary">

<input type="text" id="PFsalary" readonly placeholder="PF Of Salary">

<input type="text" id="NetSalary" readonly placeholder="Net Of Salary">

<script src="app.js"></script>

</form>

</body>

</html>

**Style.css**

/\* Basic reset \*/

\* {

margin: 0;

padding: 0;

box-sizing: border-box;

}

body {

font-family: Arial, sans-serif;

background-color: #f4f4f9;

color: #333;

padding: 20px;

}

h1 {

text-align: center;

margin-bottom: 20px;

font-size: 24px;

color: #5a5a5a;

}

form {

background-color: #fff;

padding: 20px;

border-radius: 8px;

box-shadow: 0 4px 6px rgba(0, 0, 0, 0.1);

max-width: 400px;

margin: 0 auto;

}

label {

font-size: 16px;

margin-bottom: 5px;

display: inline-block;

}

input[type="number"], input[type="text"] {

width: 100%;

padding: 8px;

margin-bottom: 15px;

border: 1px solid #ddd;

border-radius: 4px;

font-size: 16px;

}

button {

background-color: #4CAF50;

color: white;

border: none;

padding: 10px 15px;

border-radius: 4px;

font-size: 16px;

cursor: pointer;

width: 100%;

}

button:hover {

background-color: #45a049;

}

input[readonly] {

background-color: #f0f0f0;

cursor: not-allowed;

}

input[type="text"] {

font-weight: bold;

color: #2d2d2d;

}

Script.js

function performOperation(){

let BS = document.getElementById('salary').value;

let DAA = document.getElementById('da').value;

let HRAA = document.getElementById('hra').value;

let BasicSalary = parseFloat(BS);

let DA = parseFloat(DAA);

let HRA = parseFloat(HRAA);

var pf=0.00,gross=0.00,net=0.00;

gross = BasicSalary + DA + HRA;

pf = gross \* 0.05;

net = gross - pf;

document.getElementById('grossSalary').value = gross;

document.getElementById('PFsalary').value = pf;

document.getElementById('NetSalary').value = net;

}

Output:-

A screenshot of a form

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Q.5. Demonstrate an appropriate program in JS, where you have to accept basic salary from user, and find net salary as per the following given condition.

1. if basic salary is >0 and < =5000

da= 10% of basic salary

hra=15% of basic salary

gs=basic + da+ hra

pf=5% of gross salary

net salary=gs-pf;

2. if basic salary is >5000 and < =50000

da= 15% of basic salary

hra=20% of basic salary

gs=basic + da+ hra

pf=10% of gross salary

net salary=gs-pf;

3. if basic salary is >50000 and < =100000

da= 20% of basic salary

hra=25% of basic salary

gs=basic + da+ hra

pf=15% of gross salary

net salary=gs-pf;

else

message " Company not provide basic salary more than 100000.

Code:-

var basicSalary = parseFloat(prompt("Enter your basic salary:"));

var da, hra, gs, pf, netSalary;

if (basicSalary > 0 && basicSalary <= 5000) {

da = 0.10 \* basicSalary;

hra = 0.15 \* basicSalary;

gs = basicSalary + da + hra;

pf = 0.05 \* gs;

netSalary = gs - pf;

} else if (basicSalary > 5000 && basicSalary <= 50000) {

da = 0.15 \* basicSalary;

hra = 0.20 \* basicSalary;

gs = basicSalary + da + hra;

pf = 0.10 \* gs;

netSalary = gs - pf;

} else if (basicSalary > 50000 && basicSalary <= 100000) {

da = 0.20 \* basicSalary;

hra = 0.25 \* basicSalary;

gs = basicSalary + da + hra;

pf = 0.15 \* gs;

netSalary = gs - pf;

} else {

console.log("Company does not provide basic salary more than 100000.");

}

if (basicSalary > 0 && basicSalary <= 100000) {

console.log("Net Salary: " + netSalary);

}

Output:-

A close-up of a number

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Q.6. Demonstrate one program in JavaScript, where you have to read principal amount, rate of interest and numbers of year from user in text box, and accordingly you have to calculate simple and compound interest and have to display calculated value in text box respectively on button click

event.

[Note: Perform this program using Console + window and form control like level, textbox, button,

etc.]

Code:-

<!DOCTYPE html>

<html>

<head>

<title>Interest Calculator</title>

<script>

function calculateInterest() {

var principal = parseFloat(document.getElementById("principal").value);

var rate = parseFloat(document.getElementById("rate").value);

var years = parseInt(document.getElementById("years").value);

if (isNaN(principal) || isNaN(rate) || isNaN(years) || principal <= 0 || rate <= 0 || years <= 0) {

alert("Please enter valid inputs.");

return;

}

var simpleInterest = (principal \* rate \* years) / 100;

var compoundInterest = principal \* Math.pow((1 + rate / 100), years) - principal;

console.log("Simple Interest: " + simpleInterest);

console.log("Compound Interest: " + compoundInterest);

alert("Simple Interest: " + simpleInterest + "\nCompound Interest: " + compoundInterest);

document.getElementById("si").value = simpleInterest.toFixed(2);

document.getElementById("ci").value = compoundInterest.toFixed(2);

}

</script>

</head>

<body>

<label>Principal Amount:</label> <input type="text" id="principal"><br>

<label>Rate of Interest (%):</label> <input type="text" id="rate"><br>

<label>Number of Years:</label> <input type="text" id="years"><br>

<button onclick="calculateInterest()">Calculate</button><br>

<label>Simple Interest:</label> <input type="text" id="si" readonly><br>

<label>Compound Interest:</label> <input type="text" id="ci" readonly><br>

</body>

</html>

Output:-

A screenshot of a computer

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