NEPAL COLLEGE OF INFORMATION TECHNOLOGY
BALKUMARI, LALITPUR

(Affiliated to Pokhara University)

Subject: Web Technology

Lab Report# 9

Title:- JS problems

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1. Write a JavaScript program to convert temperatures to and from Celsius, Fahrenheit.

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-
scale=1.0">
    <title>qsno.1</title>
</head>
<body>
    <script>

        let c=Number(prompt("Enter celsius"));
        let fran= (c*1.8)+32;
        document.write(`From celsius to f = ${fran}`)
        document.write('<br>')

         let f=Number(prompt("Enter fahrenheit"));
        let cel= (f-32)/1.8;
        document.write('<br>')
        document.write(`From fran to celc= ${cel}`);
    </script>
</body>
</html>
```

2.Write a JavaScript program to determine whether a given year is a leap year in the Gregorian calendar.

```
<!DOCTYPE html>
<html>
<head>
    <title>Leap Year Checker</title>
</head>
<body>
    <h1>Leap Year Checker</h1>
    <label for="yearInput">Enter a year:</label>
    <input type="number" id="yearInput">
    <button onclick="checkLeapYear()">Check</button>
    <p id="result"></p>
```

```
    <script>
        function checkLeapYear() {
            var year =
parseInt(document.getElementById("yearInput").value);
            if (isNaN(year)) {
                document.getElementById("result").textContent = "Please
enter a valid year.";
                return;
            }
            if ((year % 4 === 0 && year % 100 !== 0) || year % 400 ===
0) {
                document.getElementById("result").textContent = year +
" is a leap year.";
            } else {
                document.getElementById("result").textContent = year +
" is not a leap year.";
            }
        }
    </script>
</body>
</html>
```

3.Write a JS program Using a conditional statement.

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-
scale=1.0">
    <title>Document</title>
</head>
<body>
    <script>

        let Amarks=Number(prompt('Enter your marks'))
        if(Amarks>80)
        {
            document.write('Congratulations, you got A')
        }
        elseif(Amarks>70)
        {
            document.write('Your are average')
        }
        else{
            document.write('You got A-')
        }
```

```
    </script>
</body>
</html>
```

4. Write a JS program Using every kind of loop.

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-
scale=1.0">
    <title>Document</title>
</head>
<body>
    <script>
      //while loop
      let countt=1;
      document.write("starting loop","<br>");
      while(count<10)
      {
        document.write("Current count :", countt, "<br>");
        countt ++;
      }
      document.write("loop stopped!")

      //do while loop
      let count=0;
      document.write("Starting loop","<br>");
      do{
        document.write("Current loop:",count,"<br>");
        count ++;
      }
      while(count<3);
      document.write("Loop stopped!");
      document.write("<br>");
      document.write("<br>");
      //for loop
      document.write("IT starts now:","<br>");
      for(let i=0; i<10; i++)
      {
        document.write("Current loop :",i);
        document.write("<br>")
      }
    </script>
```

```
</body>
</html>
```

5. Write a program in JavaScript to illustrate the difference between primitives and Objects.

Here are some common primitive methods in JavaScript:

.

String Methods:

.

- `length`: Returns the length of a string.
- `toUpperCase()`: Converts a string to uppercase.
- `toLowerCase()`: Converts a string to lowercase.
- `charAt(index)`: Returns the character at the specified index.
- `concat(str1, str2, ...strN)`: Concatenates strings.
- `indexOf(substring)`: Returns the index of the first occurrence of a substring.
- `slice(start, end)`: Extracts a portion of a string.
- `substring(start, end)`: Similar to `slice`, but doesn't support negative indices.
- `trim()`: Removes leading and trailing whitespace.

.

Number Methods:

.

- `toFixed(digits)`: Formats a number to a specified number of decimal places.
- `toPrecision(precision)`: Formats a number to a specified total number of digits.
- `toString(radix)`: Converts a number to a string with a specified base (binary, octal, hexadecimal, etc.).
- `parseInt(str, radix)`: Parses a string and returns an integer.
- `parseFloat(str)`: Parses a string and returns a floating-point number.

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Boolean Methods:

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There aren't many specific methods for boolean values, as they are simple true or false values. However, you can use logical operators like `&&` (logical AND), `||` (logical OR), and `!` (logical NOT) to perform operations on them.

.

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-
scale=1.0">
    <title>Document</title>
</head>
<body>
    <!-- string method -->
    <script>
        let a='   Astha Thapa    ';
        let A='Apple Ball Cat';
        document.write(a );
        document.write('<br>')
        document.write(a.length);
        document.write('<br>')
        document.write(a.slice(6))
        document.write('<br>')
        document.write(a.substr(0,5))
        document.write('<br>')
        document.write(a.toLowerCase())
        document.write('<br>')
        document.write(a.toUpperCase())
        document.write('<br>')
         let b='Astha Thapa  is Astha not astha'
        document.write(b.replace('Ast','XXX'))
        document.write('<br>')
        document.write(b.replaceAll(/Ast/ig,'XXX'))
        document.write('<br>')

        let c='CONCAT';
        let d='enate';
        document.write(c+d);
        document.write('<br>')
        document.write(c.concat("",d))

        let h=a.trim();
        document.write('<br>')
        document.write(h.length)
        let z=a.trimStart();
        document.write('<br>')
        document.write(z.length)
        let p=a.trimEnd();
        document.write('<br>')
        document.write(p.length)
```

```
        document.write('<br>')
        let i="2";
        let j=i.padStart(4,'*')
        document.write(j);
        document.write('<br>')
        let ast="apple";
        document.write(ast.charAt('2'))
        document.write('<br>')
        document.write(ast.charCodeAt('4'))
        document.write('<br>')
        let aa=string(prompt'Enter a string');
        let bb=a.charAt(0)
        let cc=bb.toUpperCase()
        let dd=cc+aa.slice(1);
        document.write(dd)


    </script>
</body>
</html>
```

```
<!DOCTYPE html>
<html>
<body>

<h2>JavaScript Objects</h2>
<p>Creating an object:</p>
<p id="demo"></p>
<script>
const person = {
  firstName : "Astha",
  lastName  : "Thapa",
};
document.getElementById("demo").innerHTML = person.firstName + " " +
person.lastName;
</script>
</body>
</html>
```

5. Write a program in JavaScript that takes a username as input from the Prompt box and displays that name as an output in the Alert box.

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-
scale=1.0">
    <title>Document</title>
</head>
<body>
    <script>
         let username= prompt("What is your name?")
        alert("My name is: "+username);
    </script>
</body>
</html>
```

7. Write a program and execute it in JavaScript to display a prompt for 2 numbers and
show its sum, difference, Multiplication, and Division in the alert box after confirming
with the user.

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-
scale=1.0">
    <title>Document</title>
</head>
<body>
    <!-- variable -->
    <script>
        //var a='Astha';
        //var a=5;
        // var a=10.5;
        // var a=null;
        // var a=false;
        // {
        //     let a='Hari';
        //     document.write(a);
        // }
        // {
```

```
        //     var a='shiva';
        //     document.write(a);
        // }
        // document.write(a);

        // let a;
        // a='astha';
        // document.write(a)

        let a=Number(prompt('Enter 1st value'));
        let b=Number(prompt('Enter 2nd value'));
        document.write('Sum=',a+b);
        document.write("<br>")
        document.write('Difference=',a-b);
        document.write("<br>")
        document.write('Multiplication=',a*b);
        document.write("<br>")
        document.write('Division=',a/b);
        document.write("<br>")
        document.write('Expotent=',a**b);
        document.write("<br>")
        document.write('Modulas=',a%b);
        document.write("<br>");
        // document.write('astha'+'thapa')
    </script>
</body>
</html>
```

8. Write a JS program that includes all kinds of operators (refer to slides for the operator)

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-
scale=1.0">
    <title>Document</title>
</head>
<body>
    <script>
        <!-- Arithematic Operator -->
    // console.log(4+5);
    // console.log(4-5);
    // console.log(4*5);
```

```
    // console.log(8%4);
    // console.log(8/3);
    // console.log(2**4);
    // let a=5;
    // console.log(a++);
    // console.log(a++);
    // console.log(++a);

    // Comparsion Operator
    // console.log(4==5);
    // console.log(4!=5);
    // console.log(4<=5);

    //Comparison Operator
   // console.log(a=='1');
//    let a=Number(prompt('Enter the number'));
//    if(a==='10')
//    {
//     document.write(a,' datatype is not matched');
//    }
//    else if(a>10)
//    {
//     document.write(a,' is greater than 10');
//    }
//    else{
//     document.write(a,' datatype is not matched');
//    }
     //logical operator
    //  console.log(3==3 && 4==5)
    //  console.log(3==3 && 4==4)
    //  console.log(3==3 || 4==5)
    //Bitwise operator
    // console.log(4|6);
    // console.log(4&6);
    //xor console.log(4^6)
    //console.log(~4);
    //Assignment operator
    // let a=10;
    // let b=25;
    // a=b;
    // console.log(a);
    // let a=10;
    // let b=25;
    // console.log(4==3?a+=1:b+=1);
    </script>
</body>
</html>
```

9.Write a program and execute it in JavaScript to compute the real roots of the quadratic.equation, asking for the user's coefficients of equation (a,b,c). [Use prompt, Math. sqrt]

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-
scale=1.0">
    <title>Document</title>
</head>
<body>
   <script>
     let a=Number(prompt('Enter coefficient of a'));
     let b=Number(prompt('Enter coefficient of b'));
     let c=Number(prompt('Enter coefficient of c'));
     let d=(b*b-4*a*c);
     let e=Math.sqrt(b*b-4*a*c)
     if(d<0)
     {
     document.write('Real root is imaginary')
     }
     else if(d==0)
     {
     document.write('Roots are real and equal')
     document.write('<br>')
     document.write('r1=r2=',-b/(2*a))

    }
    else
     {
     document.write('Roots are real but not equal')
     document.write('<br>')
     document.write('r1=',(-b+e)/(2*a))
     document.write('<br>')
     document.write('r21=',(-b-e)/(2*a))
    }
     </script>
</body>
</html>
```

10. Write a JavaScript that calculates the squares and cubes of the numbers from 0 to 10 and
outputs HTML text that displays the resulting values in an HTML table format.

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-
scale=1.0">
    <title>Document</title>
</head>
<body>
    <table border="1" align="center">
        <script>
            let a=Number(prompt('Enter a number.'))
            let n=Number(prompt('Range'));


          for(let i=1; i<=n ;i++)
          {
             // document.write(a,'*',i,'=',a*i,'<br>')
             document.write('<tr>')
             document.write('<td bgcolor="pink">',a,'</td>')
             document.write('<td bgcolor="blue">',i,'</td>')
             document.write('<td bgcolor="maroon">',a*i,'</td>')
             document.write('</tr>')
          }

          </script>
    </table>
</body>
</html>
```

11. Write a JS program to check whether a given number is even or odd.

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-
scale=1.0">
    <title>Document</title>
```

```
</head>
<body>
    <script>
        let n=Number(prompt('Enter a number'))
        if(n%2)
        {
            document.write('The number is odd')
        }
        else{
            document.write('The number is even')
        }
    </script>
</body>
</html>
```

12. Write a JS program to print the multiplication table of a number provided by user.

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-
scale=1.0">
    <title>Document</title>
</head>
<body>
    <table border="1" align="center">
        <script>
            let a=Number(prompt('Enter a number.'))
            let n=Number(prompt('Range'));


           for(let i=1; i<=n ;i++)
           {
              // document.write(a,'*',i,'=',a*i,'<br>')
              document.write('<tr>')
              document.write('<td bgcolor="pink">',a,'</td>')
              document.write('<td bgcolor="blue">',i,'</td>')
              document.write('<td bgcolor="maroon">',a*i,'</td>')
              document.write('</tr>')
           }

           </script>
    </table>
</body>
```

```
</html>
```

13. WAP to use switch case.

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-
scale=1.0">
    <title>Document</title>
</head>
<body>
    <script>
        let a=prompt('Enter your choice');
        switch(a)
        {
            case 1:
            document.write('<table border="4px" bgcolor="maroon">');
            break;

            case 2:
            document.write('<table border="4px" bgcolor="green ">');
            break;
            case 3:
            document.write('<table border="4px" bgcolor="aqua">');
            break;
            default: document.write("You don't like any fruits");
```

```
        }
        document.write(' <table border="1">')
            document.write('<tr>')
            document.write('<th>Name</th>')
            document.write('  <th>Gender</th>')
            document.write(' <th>Age</th>')
            document.write('<th>Gender</th>')
            document.write(' </tr>')
            document.write(' <tr>')
             document.write(' <td>Astha</td>')
             document.write('<td>Female</td>')
             document.write('<td>00</td>')
             document.write('<td>Lalitpur</td>')
             document.write('</tr>')
             document.write('</table>')
    </script>
</body>
```

```
</html>
```

14. WAP in jS that display and hide the paragraph.

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-
scale=1.0">
    <title>Document</title>
    <style>
        p{
            background-color: maroon;
            font-size: 20px;
            height: 100px;
        }
    </style>
</head>
<body>
    <p id="A" >Want to know today's date?</p>
    <button onclick="AB()">Hide</button>
    <button onclick="CD()">SHow</button>
   <script src="a.js"></script>
</body>
</html>
```

Js

```
    function AB()
    {
       document.getElementById('A').style.display='none';

    }

    function CD()
    {
       document.getElementById('A').style.display='block';
    }
```

15. WAP to display today’s date in the red box

```
<!DOCTYPE html>
<html lang="en">
```

```
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-
scale=1.0">
    <title>Document</title>
    <style>
        #clock{
            align-content: center;
            background-color: rgb(28, 31, 34);
            color: antiquewhite;
            height: 50px;
            width: 75px;
            border-radius: 5px;

        }
    </style>
</head>
<body>
    <div id="clock"></div>
    <script id="A" >
        function clock()
        {
        let time=new Date();
        let hour= time.getHours();
        let min=time.getMinutes();
        let sec= time.getSeconds();
        let meri="AM";

        if(hour>12)
        {
            hour-=12;
            meri="PM";
        }
        if(hour==0)
        {
            hour=12;
        }
        if(min<10)
        {
         min="0"+min;
        }
        if(sec<10)
        {
            sec="0"+sec;
        }
        let ghadi=hour+":"+min+":"+sec+meri;
        document.getElementById("clock").innerHTML=ghadi;
    }
```

```
    setInterval(clock,1000)
    </script>
</body>
</html>
```

16. WAP uses type of operator.
=already done at above program

17. WAP to display all the time.

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-
scale=1.0">
    <title>Document</title>
    <style>
        #clock{
            align-content: center;
            background-color: rgb(28, 31, 34);
            color: antiquewhite;
            height: 50px;
            width: 75px;
            border-radius: 5px;

        }
    </style>
</head>
<body>
    <div id="clock"></div>
    <script id="A" >
        function clock()
        {
        let time=new Date();
        let hour= time.getHours();
        let min=time.getMinutes();
        let sec= time.getSeconds();
        let meri="AM";

        if(hour>12)
        {
            hour-=12;
            meri="PM";
```

```
        }
        if(hour==0)
        {
            hour=12;
        }
        if(min<10)
        {
         min="0"+min;
        }
        if(sec<10)
        {
            sec="0"+sec;
        }
        let ghadi=hour+":"+min+":"+sec+meri;
        document.getElementById("clock").innerHTML=ghadi;
        document.write(hour,":",min,":",sec);
        let mili=time.getMilliseconds();
        let month =time.getMonth();
        let year= time.getFullYear();
        document.write(time);
        document.write('<br>');
        document.write(hour);
        document.write('<br>');
        document.write(minute);
        document.write('<br>');
        document.write(sec);
        document.write('<br>');
        document.write(mili);
        document.write('<br>');
        document.write(month)
        document.write('<br>');
        document.write(year);
    }
    setInterval(clock,1000)
    </script>
</body>
</html>
```

18. WAP that includes array.(To print the object of array)

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
```

```
    <meta name="viewport" content="width=device-width, initial-
scale=1.0">
    <title>Document</title>
</head>
<body>
    <script>
        // let a=[19.35,55,'astha',222,'apple']
        // console.log(a);
        // let b=new Array(3,4,5,'ball','bat')
        let fruits=['Mango','Orange','Banana','Apple','Strawberry']
          let vegetable=['Potato','Tomato','Saag','Cauli']
          let num=[100,3,1,5,10,11,12,1323434,432]
        // console.log(b);
        // console.log(typeof(b));
        // console.log(a[2]);
        // console.log(a[6]);
        // console.log(a.length);
        // document.write('<ul>')
        // for(let i=0; i<a.length; i++)
        // {
        //     document.write('<li>')
        //     document.write(a[i]);
        //     document.write('<li>')
        // }
        // document.write('</ul>')

    //     document.write(fruits.length);
    //     document.write('<br>');
    //    fruits[1]='Grapes';
    //    document.write(fruits);
    //    fruits.push('Apple','Strawberry');
    //    document.write('<br>');
    //    document.write(fruits);
    //    document.write('<br>');
    //   document.write( fruits.pop());
    //   delete fruits[2];
    //   document.write('<br>');
    //   document.write(fruits)
    //   document.write('<br>');
    //   document.write(fruits[2])
    //   document.write(fruits.shift())
    //   document.write('<br>');
    //   document.write(fruits)
    //   document.write(fruits.unshift('starfruit'))
    //   document.write('<br>');
    //   document.write(fruits)
    //   document.write('<br>');
    //   document.write(fruits.join('**-**'))
```

```
    //    document.write('<br>');
    //    let vegetable=['Potato','Tomato','Saag','Cauli']
    //    document.write(fruits.concat(vegetable))
    //    document.write('<br>');
    //    document.write(fruits.concat('radish'))

    //    let c=fruits.slice(-4,-1);
    //    console.log(c)
    //    let c=fruits.splice(1,5,'A','naspati')
    //    console.log(c)
    //    console.log(fruits)
      let compare=(a,b)=>{
        return b-a;
      }
    //    let a=num.sort(compare);
    //    console.log(a[0])
    console.log(fruits.sort(compare))
   //console.log( fruits.includes('Orange'))
   console.log(Array.isArray(fruits))

    </script>
</body>
</html>
```

19. Write a JS to create a table of family with Id,Name, Gender,Salary refer below table

```
<!DOCTYPE html>
<html lang="en">
<head>
<meta charset="UTF-8">
<meta name="viewport" content="width=device-width, initial-scale=1.0">
<title>Family Table</title>
<style>
  table {
    border-collapse: collapse;
    width: 100%;
    border: 1px solid black;
  }
  th, td {
    border: 1px solid black;
    padding: 8px;
    text-align: left;
  }
  th {
    background-color: #f2f2f2;
```

```
  }
</style>
</head>
<body>
<table>
  <thead>
    <tr>
      <th>Id</th>
      <th>Name</th>
      <th>Gender</th>
      <th>Salary</th>
    </tr>
  </thead>
  <tbody id="familyTableBody">
    <!-- Table rows will be added here using JavaScript -->
  </tbody>
</table>

<script>
const familyData = [
  { id: 1, name: 'John', gender: 'Male', salary: 50000 },
  { id: 2, name: 'Jane', gender: 'Female', salary: 60000 },
  { id: 3, name: 'Alex', gender: 'Male', salary: 55000 },
  // Add more family members as needed
];
const tableBody = document.getElementById('familyTableBody');
familyData.forEach(member => {
  const row = document.createElement('tr');

  const idCell = document.createElement('td');
  idCell.textContent = member.id;
  row.appendChild(idCell);

  const nameCell = document.createElement('td');
  nameCell.textContent = member.name;
  row.appendChild(nameCell);

  const genderCell = document.createElement('td');
  genderCell.textContent = member.gender;
  row.appendChild(genderCell);

  const salaryCell = document.createElement('td');
  salaryCell.textContent = member.salary;
  row.appendChild(salaryCell);

  tableBody.appendChild(row);
});
</script>
```

```
</body>
</html>
```

20.

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-
scale=1.0">
    <title>Document</title>
</head>
<body>
    <script>
        var bordersize;
        bordersize = prompt("Select a table border size \n"+
                            "0 (no border)\n")+"1(1 pixel border)\n"+
                            "4 (4 pixel border)\n";
                            "8 (8 pixel border)\n";
        switch(bordersize)
        {
            case"0":
            document.write("<table>");
             break;
            case "1":
            document.write( "<table border ='1'>");
            break;
            case "4":
            document.write( "<table border ='4'>");
            break;
            case "8":
            document.write( "<table border ='8'>");
            break;

            default: document.write("Invalid choice","<br>");
        }
        document.write("<caption> 2008 NFL Divisonal","Winners
</caption>")
        document.write("<tr>","<th/>",
            "<table border='1'>",
            "<th> </th>",
            "<th> American Conference </th>",
            "<th> National Conference </th>",
            "<tr>",
```

```
            "<th> East </th>",
            "<td> Miami Dolphins </td>",
            "<td> New York Giants </td>",
            "</tr>",
            "<tr>",
            "<th> North </th>",
            "<td> Miami Dolphins </td>",
            "<td> New York Giants </td>",
            "</tr>",
            "<tr>",
            "<th> West </th>",
            "<td> Miami Dolphins </td>",
            "<td> New York Giants </td>",
            "</tr>",
            "<tr>",
            "<th> South </th>",
            "<td> Miami Dolphins </td>",
            "<td> New York Giants </td>",
            "</tr>",
            "</table>");
    </script>
</body>
</html>
```