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Sub : Sem-II

Roll No : 271

Practical : 03

Aim: Write a JavaScript to design a simple calculator to perform the following operations: sum, product, difference and quotient.

Code (Html):

```
<!DOCTYPE html>
<html>
  <head>
    <title>Calculator</title>
    <meta charset="utf-8"/>
    <link rel="stylesheet" href="design.css"/>
    <script src="logic.js"></script>
  </head>
  <body>
    <div class="container">
      <div class="head">CALCULATOR</div>
      <div class="screen">
        <div id="numdisplay"><span>0</span></div>
      </div>
      <div class="specialbuttons">
        <input type="button" name="reset" value="Reset" onclick="sperform(this.name)"/>
        <input type="button" name="bs" value="Backspace"
onclick="sperform(this.name)"/>
      </div>
      <div class="keypad">
        <input type="button" name="1" value="1" onclick="perform(this.name)"/>
        <input type="button" name="2" value="2" onclick="perform(this.name)"/>
        <input type="button" name="3" value="3" onclick="perform(this.name)"/>
        <input type="button" name="+" value="+" onclick="perform(this.name)"/>
        <input type="button" name="4" value="4" onclick="perform(this.name)"/>
        <input type="button" name="5" value="5" onclick="perform(this.name)"/>
        <input type="button" name="6" value="6" onclick="perform(this.name)"/>
        <input type="button" name="-" value="-" onclick="perform(this.name)"/>
        <input type="button" name="7" value="7" onclick="perform(this.name)"/>
        <input type="button" name="8" value="8" onclick="perform(this.name)"/>
        <input type="button" name="9" value="9" onclick="perform(this.name)"/>
        <input type="button" name="*" value="*" onclick="perform(this.name)"/>
        <input type="button" name="." value="." onclick="perform(this.name)"/>
        <input type="button" name="0" value="0" onclick="perform(this.name)"/>
        <input type="button" name="=" value="=" onclick="perform(this.name)"/>
        <input type="button" name="/" value="/" onclick="perform(this.name)"/>
      </div>
    </div>
  </body>
</html>
```

Code (CSS):

```

*{
    margin: 0px;
    padding: 0px;
}
body{
    background-image:url(bg.jpg);
    background-size: cover;
    background-attachment: fixed;
}
.head{
    width: 300px;
    text-align: center;
    font: bold normal 18px Arial;
    margin: 0px auto;
}
.container{
    height: 406px;
    width: 350px;
    margin: 40px auto;
    background-color: #474473;
    border: 3px inset #eac595;
    border-radius: 17px;
    padding: 40px 30px;
    justify-content: center;
}
}
.screen{
    height: 50px;
    width: 300px;
    margin: 10px;
    padding: 16px 10px;
    border: 1px solid #283d6d;
    border-radius: 11px;
    background-color: antiquewhite;
}

```

```

#numdisplay{
    height: 42px;
    text-align: right;
    font: normal normal 43px Arial;
}
#numdisplay span{
    opacity: 0.5;
}
.keypad {
    width: 290px;
    height: 206px;
    border: 1px dotted #27b04a;
    border-radius: 14px;
    margin: 14px;
    padding: 12px;
}
input{
    height: 47px;
    width: 65px;
    margin: 2px;
    padding: 4px;
    border-radius: 10px;
    font: bold normal 30px Verdana;
}
input:hover{
    background-color: silver;
}
}
.specialbuttons{
    height: 50px;
    width: 300px;
    margin: 0px auto;
}
.specialbuttons input{
    width: 143px;
    font-size: 20px;
}
}

```

Code (JAVASCRIPT):

```

//functioning of backspace
//limit the number of digits and decimal places

//variables needed
var a="",b="";
var sign="";

//performs the actual function
function operate()
{
    switch(sign)
    {
        case '+':
            a=String(Number(a)+Number(b))
            document.getElementById('numdisplay').innerHTML=a;
            b="";sign="";
            break;
        case '-':
            a=String(Number(a)-Number(b))
            document.getElementById('numdisplay').innerHTML=a;
            b="";sign="";
            break;
        case '*':
            a=String(Number(a)*Number(b))
            document.getElementById('numdisplay').innerHTML=a;
            b="";sign="";
            break;
        case '/':
            if(b=='0')
            {
                document.getElementById('numdisplay').innerHTML="Cannot divide by zero!";
                a="";b="";c="";
                break;
            }
            else
            {
                a=String(Number(a)/Number(b))
                document.getElementById('numdisplay').innerHTML=a;
                b="";sign="";
                break;
            }
    }
}

//triggered when a button is pressed
function perform(m)
{
    //checks for =
    if(m=="=")
    {
        if((a!="")&(b!=""))

```

```

        {
            operate();
        }
    }
    //checks for signs
    else if((m=="+")||(m=="-")||(m=="*")||(m=="/"))
    {
        if((a!="")&&(b==""))
        {
            sign=m;
            document.getElementById('numdisplay').innerHTML=a+sign;
        }
        else if((a!="")&&(b!=""))
        {
            operate();
            sign=m;
            document.getElementById('numdisplay').innerHTML=a+sign;
        }
    }
    //checks for numbers and decimals
    else
    {
        if(sign=="")
        {
            a=a+m;
            document.getElementById('numdisplay').innerHTML=a;
        }
        else
        {
            b=b+m;
            document.getElementById('numdisplay').innerHTML=a+sign+b;
        }
    }
}

```

//function for special buttons

function sperform(m)

```

{
    switch(m)
    {
        case 'reset':
            location.reload();
            break;
        case 'bs':
            if((a!="")&&(sign!=""))
            {
                if(b=="")
                {
                    sign="";
                    document.getElementById('numdisplay').innerHTML=a;
                }
                else//b has some value
            }
        }
    }
}

```

```

    {
        var bx= new Array();
        bx=b.split("");
        bx.pop();
        b=bx.join("");
        document.getElementById('numdisplay').innerHTML=a+sign+b;
    }
}
else if((a!="")&&(sign==""))
{
    var ax=new Array();
    ax=a.split("");
    ax.pop();
    a=ax.join("");
    document.getElementById("numdisplay").innerHTML=a;
}
break;
}
}

```

OUTPUT:



