```html
<!DOCTYPE html>
<html>
<head>
    <meta charset="utf-8" />
    <title>ITW | P6 Ex1 | Calculadora</title>

    <!--BOOTTRAP-->
    <link rel="stylesheet"
href="https://stackpath.bootstrapcdn.com/bootstrap/4.1.3/css/bootstrap.min.css"
integrity="sha384-MCw98/SFnGE8fJT3GXwEOngsV7Zt27NXFoaoApmYm81iuXoPkFOJwJ8ERdknLPMO"
crossorigin="anonymous">

    <!--JAVASCRIPT-->
    <script src="p6_ex1_calculadora.js"></script>

    <style>
        .card {width: 50%;}
        .btn {width: 25%;}
    </style>
</head>
<body>
    <br/>
    <div class="container">
        <div class="card mx-auto">
            <div class="card-header">
                <input type="text" name="resultado" id="resultado" value=""
placeholder="Resultado"/>
            </div>
            <div class="card-body">
                <div class="row">
                    <input type="button" class="btn btn-outline-primary" value="1"
onclick="add(this)"/>
                    <input type="button" class="btn btn-outline-primary" value="2"
onclick="add(this)"/>
                    <input type="button" class="btn btn-outline-primary" value="3"
onclick="add(this)"/>
                    <input type="button" class="btn btn-outline-primary" value="+"
onclick="add(this)"/>
                </div>
                <div class="row">
                    <input type="button" class="btn btn-outline-primary" value="4"
onclick="add(this)"/>
                    <input type="button" class="btn btn-outline-primary" value="5"
onclick="add(this)"/>
                    <input type="button" class="btn btn-outline-primary" value="6"
onclick="add(this)"/>
```

```html
                <input type="button" class="btn btn-outline-primary" value="-"
onclick="add(this)"/>
                </div>
                <div class="row">
                    <input type="button" class="btn btn-outline-primary" value="7"
onclick="add(this)"/>
                    <input type="button" class="btn btn-outline-primary" value="8"
onclick="add(this)"/>
                    <input type="button" class="btn btn-outline-primary" value="9"
onclick="add(this)"/>
                    <input type="button" class="btn btn-outline-primary" value="*"
onclick="add(this)"/>
                </div>
                <div class="row">
                    <input type="button" class="btn btn-outline-primary" value="C"
onclick="reset()"/>
                    <input type="button" class="btn btn-outline-primary" value="0"
onclick="add(this)"/>
                    <input type="button" class="btn btn-outline-primary" value="="
onclick="calculadora()"/>
                    <input type="button" class="btn btn-outline-primary" value="/"
onclick="add(this)"/>
                </div>
                <div class="card-footer">&copy; Gonçalo Matos 2018</div>

                <script>
                    window.onload = document.getElementById("resultado").disabled=true;
                </script>
            </div>
        </div>
    </div>

</body>
</html>
```

```javascript
function boasvindas() {
    alert("Sê bem-vindo à calculadora!");
}


function add(x) {
    var visor = document.getElementById("resultado");
    visor.value=visor.value+x.value;


}


function reset() {
    document.getElementById("resultado").value=""
}


function calculadora() {
    var visor = document.getElementById("resultado");

    if (visor.value.includes("+")) {
        var operacao = visor.value.split("+");
        visor.value=Number(operacao[0])+Number(operacao[1]);
    } else if (visor.value.includes ("*")) {
        var operacao = visor.value.split("*");
        visor.value=Number(operacao[0])*Number(operacao[1]);
    } else if (visor.value.includes ("/")) {
        var operacao = visor.value.split("/");
        if (operacao[1]==0) {
            alert("Não se fazem divisões por zero!");
        } else {
            visor.value=Number(operacao[0])/Number(operacao[1]);
        }
    } else if (visor.value.includes("-")) {
        var operacao = visor.value.split("-");
        visor.value=Number(operacao[0])-Number(operacao[1]);
    }
}


window.onload=boasvindas();
```

```html
<!DOCTYPE html>
<html>
<head>
    <meta charset="utf-8" />
    <title>ITW | P6 Ex2 | Validação de formulários</title>

    <!--BOOTTRAP-->
    <link rel="stylesheet"
href="https://stackpath.bootstrapcdn.com/bootstrap/4.1.3/css/bootstrap.min.css"
integrity="sha384-MCw98/SFnGE8fJT3GXwEOngsV7Zt27NXFoaoApmYm81iuXoPkFOJwJ8ERdknLPMO"
crossorigin="anonymous">

    <!--JAVASCRIPT-->
    <script src="p6_ex2_validacaoforms.js"></script>

    <!--FONTAWESOME-->
    <link rel="stylesheet" href="https://use.fontawesome.com/releases/v5.4.2/css/all.css"
integrity="sha384-/rXc/GQVaYpyDdyxK+ecHPVYJSN9bmVFBvjA/9eOB+pb3F2w2N6fc5qB9Ew5yIns"
crossorigin="anonymous">

    <style>
        .row {
            margin-left:0px;
            margin-right: 0px;
        }

        .no-error {display: none;}
        .error {display: inline-block;}
    </style>
</head>
<body>
    <form role="form" onsubmit="" method="post" action="http://192.168.160.36/FormEcho.aspx">
        <div class="form-group row">
            <label for="firstname">Fisrt Name</label>
            <div class="col-sm-10">
                <input type="text" class="form-control" id="firstname" name="firstname"
placeholder="Introduza o seu primeiro nome">
                <div id="firstname_error" class="no-error form-control-static bg-danger">
                    <br/><i class="fa fa-exclamation-triangle"></i>The firts name should have,
at least 3 characters!</div>
                </div>
            </div>
        </div>
        <div class="form-group row">
            <label for="lastname">Last Name</label>
            <div class="col-sm-10">
```

```html
                <input type="text" class="form-control" id="lastname" name="lastname"
placeholder="Introduza o seu último nome">
            </div>
        </div>
        <div class="form-group row">
            <label for="password">Password</label>
            <div class="col-sm-10">
                <input type="password" class="form-control" id="password" name="password"
placeholder="Password">
            </div>
        </div>
        <div class="form-group row">
            <label for="comments">Comments</label>
            <div class="col-sm-10">
                <textarea class="form-control" id="comments" name="comments" placeholder="Insira
os seus comentários"></textarea>
            </div>
        </div>
        <div class="form-group row form-check">
            <button type="reset" class="btn btn-default">Reset</button>
            <button type="submit" class="btn btn-primary" onclick="return
testFormValid()">Submit</button>
        </div>
    </form>

</body>
</html>
```

```javascript
function testFormValid() {
    var retVal=true;
    var fn = document.getElementById("firstname");
    var fn_error = document.getElementById("firstname_error");

    if (fn.value.trim().length < 3) {
        if (fn_error.classList.contains("no-error")) {
            fn_error.classList.remove("no-error");
        } else if (!(fn_error.classList.contains("error"))) {
            fn_error.classList.add("error");
        }
        return false;
    } else {
        if (fn_error.classList.contains("error")) {
            fn_error.classList.remove("error");
        } else if (!(fn_error.classList.contains("no-error"))) {
            fn_error.classList.add("noerror");
        }
    }
    return retVal;
}
```