```
<!DOCTYPE html>
<html>
<head>
<title>CSCI 6314 Lab 2 by Ulvi Bajarani</title>
</head>
<script>
function FutureValueCalculation()
{
document.getElementById("Results").innerHTML = ""; // To clear the table.

let isNumberRegex = /^-?[\d.]+(?:e-?\d+)?$/; //The regex code to check if the value is legal.
var InitialInvestment = document.getElementById("InitialInvestment").value;  // To get the initial investment.
var InterestRate = document.getElementById("InterestRate").value; // To get the interest rate.
var DepositValue = document.getElementById("DepositValue").value; // To get the deposit.
var AgeStarted = document.getElementById("AgeStarted").value; // To get the age.

//Checking if the values are legal.
if (!(InitialInvestment.match(isNumberRegex)))
{
return alert("InitialInvestment should be the value (float or integer). Please, enter the right value");
}
if(InitialInvestment <= 0)
{
return alert("Initial Investment should be higher than 0. Please, enter the right value");
}
if (!(InterestRate.match(isNumberRegex)))
{
return alert("Interest Rate should be the value (float or integer). Please, enter the right value");
```

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}
if(InterestRate <= 0)
{
return alert("Interest Rate should be higher than 0 and not equal to 0. Please, enter the right value");
}
if (!(DepositValue.match(isNumberRegex)))
{
return alert("Deposit Value for 30 days should be the value (float or integer). Please, enter the right value");
}
if(DepositValue < 0)
{
return alert("Deposit Value for 30 days should be higher than 0 (you can enter 0 if you calculate just annual value). Please, enter the right value");
}
if (!(AgeStarted.match(isNumberRegex)))
{
return alert("Starting age should be the integer value (even you enter the float, the float part will be removed). Please, enter the right value");
}
if((AgeStarted <= 0) || (AgeStarted >= 65))
{
return alert("The starting age should be higher than 0, not equal to 0, lower than 65 and not equal to 65. Please, enter the right value");
}

//Create an initial table definitions.
document.getElementById("Results").insertRow(-1).innerHTML = "<td colspan=\"5\"><b>Future Value Calculation</b></td>";
document.getElementById("Results").insertRow(-1).innerHTML = "<td colspan=\"5\">Initial Investment: $" + InitialInvestment + "</td>";
document.getElementById("Results").insertRow(-1).innerHTML = "<td colspan=\"5\">Interest Rate: " + InterestRate + "%</td>";
document.getElementById("Results").insertRow(-1).innerHTML = "<td colspan=\"5\">Deposit every 30 days: $" + DepositValue + "</td>";
document.getElementById("Results").insertRow(-1).innerHTML = "<td colspan=\"5\">Investment started: " + AgeStarted + "</td>";
```

```
document.getElementById("Results").insertRow(-1).innerHTML = "<td><b>Age</td><td><b>Beginning
Balance</b></td><td><b>Interest</b></td><td><b>Deposits</b></td><td><b>Ending Balance</b></td>";


//Defining Beginning balance and per year deposits. It is important to define them first to avoid plus-minus one problem.
var BeginningBalance = InitialInvestment;
var PerYearDeposits = 12*DepositValue;


// the For cycle with the formulas to calculate.
for (var i = 1 ; i <= (65 - Math.floor(AgeStarted)) ; i++)
{
var AgeToCalculate = Math.floor(AgeStarted)+(i);
var AnnualMoney = InitialInvestment*Math.pow( (1+(InterestRate/36500)), (i*365));
var DepositIncomePerYear = ((DepositValue*(Math.pow( (1+(InterestRate/1200)), (i*12)))) - DepositValue) / (InterestRate/1200);
var EndingBalance = AnnualMoney + DepositIncomePerYear;
var InterestGained = EndingBalance - BeginningBalance - PerYearDeposits;
document.getElementById("Results").insertRow(-1).innerHTML = "<td>" + AgeToCalculate + "</td>" + "<td>" + BeginningBalance + "</td>" + "<td>" +
InterestGained + "</td>" + "<td>" + 12*DepositValue + "</td>" + "<td>" + EndingBalance + "</td>";
BeginningBalance = EndingBalance;

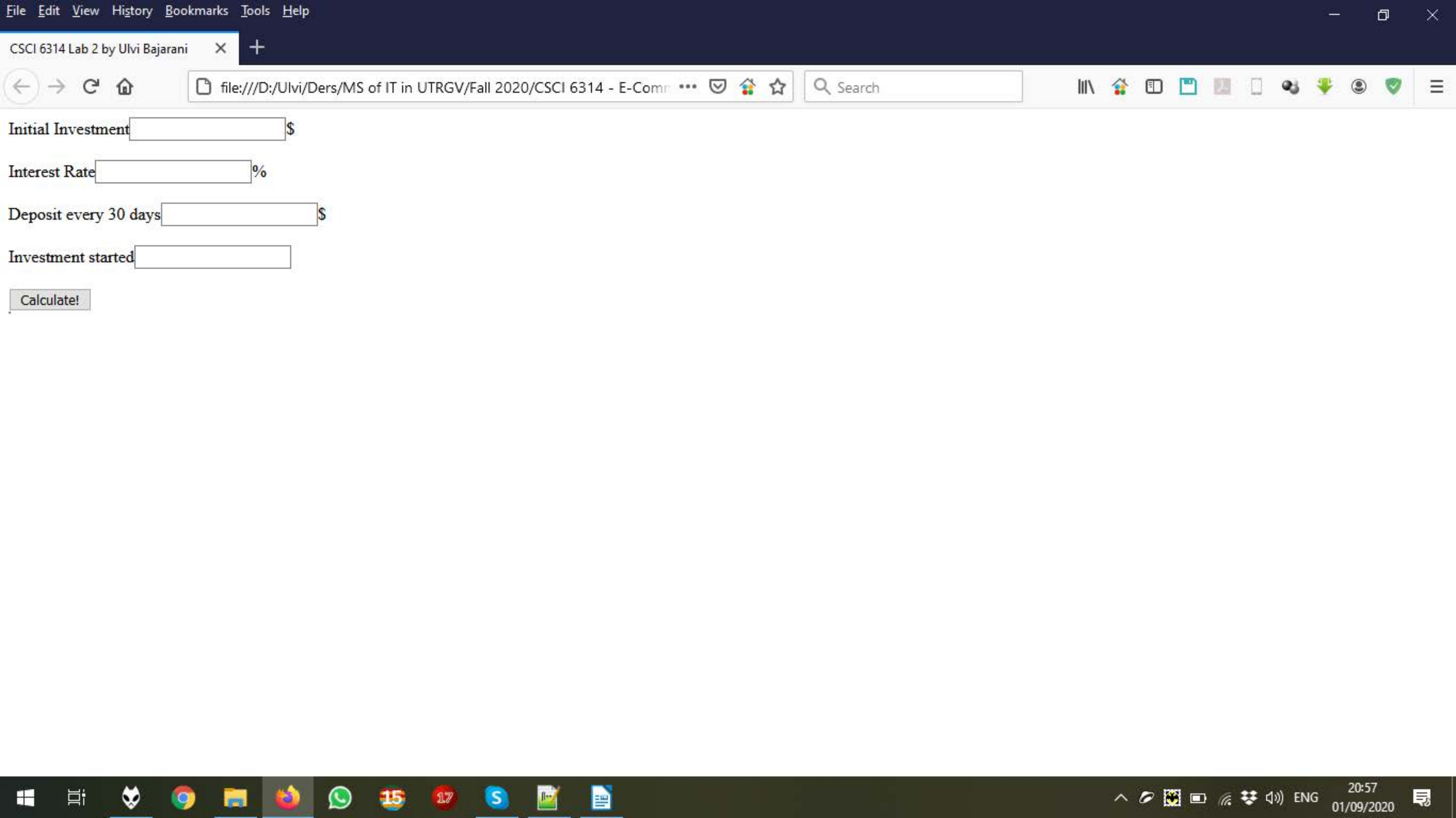
}

}
</script>

<body>
<!-- The form and the button -->
```

```
<form autocomplete="off">
<div><label for="InitialInvestment">Initial Investment</label><input type="text" id="InitialInvestment" name="InitialInvestment">$</div>
<br>
<div><label for="InterestRate">Interest Rate</label><input type="text" id="InterestRate" name="InterestRate">%</div>
<br>
<div><label for="DepositValue">Deposit every 30 days</label><input type="text" id="DepositValue" name="DepositValue">$</div>
<br>
<div><label for="AgeStarted">Investment started</label><input type="text" id="AgeStarted" name="AgeStarted"></div>
<br>
<div><button type="button" onclick="FutureValueCalculation()">Calculate!</button></div>
</form>
<!-- The Table -->
<table border="1px" id="Results"></table>

</body>
</html>
```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CSCI 6314 Lab 2 by Ulvi Bajarani
file:///D:/Ulvi/Ders/MS of IT in UTRGV/Fall 2020/CSCI 6314 - E-Comm
Search
Initial Investment $
Interest Rate %
Deposit every 30 days $
Investment started
Calculate!
ENG
20:57
01/09/2020

Initial Investment 2000 $

Interest Rate 12 %

Deposit every 30 days 100 $

Investment started 50

Calculate!

Initial Investment 2000 $

Interest Rate 12 %

Deposit every 30 days 100 $

Investment started 50

Calculate!

Future Value Calculation				
Initial Investment: $2000				
Interest Rate: 12%				
Deposit every 30 days: $100				
Investment started: 50				
Age	**Beginning Balance**	**Interest**	**Deposits**	**Ending Balance**
51	2000	323.1995325964863	1200	3523.1995325964863
52	3523.1995325964863	516.5449705405545	1200	5239.744503137041
53	5239.744503137041	734.4325607178125	1200	7174.177063854853
54	7174.177063854853	979.9775534719683	1200	9354.154617326822
55	9354.154617326822	1256.6906339183734	1200	11810.845251245195
56	11810.845251245195	1568.5281167014164	1200	14579.373367946611
57	14579.373367946611	1919.9485122780661	1200	17699.321880224677
58	17699.321880224677	2315.9762735071236	1200	21215.2981537318
59	21215.2981537318	2762.2736339879884	1200	25177.57178771979
60	25177.57178771979	3265.221565288539	1200	29642.79335300833
61	29642.79335300833	3832.011010583945	1200	34674.80436359227
62	34674.80436359227	4470.745699161191	1200	40345.550062753464
63	40345.550062753464	5190.55801182703	1200	46736.108074580494
64	46736.108074580494	6001.739553861051	1200	53937.847628441545
65	53937.847628441545	6915.888302443687	1200	62053.73593088523

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Search

Initial Investment 2500 $

Interest Rate 9 %

Deposit every 30 days 50 $

Investment started 55

Calculate!

Future Value Calculation				
Initial Investment: $2500				
Interest Rate: 9%				
Deposit every 30 days: $50				
Investment started: 55				
Age	**Beginning Balance**	**Interest**	**Deposits**	**Ending Balance**
56	2500	260.78468013164957	600	3360.7846801316496
57	3360.7846801316496	341.61584764723966	600	4302.400527778889
58	4302.400527778889	430.03741073062065	600	5332.43793850951
59	5332.43793850951	526.7621423226683	600	6459.200080832178
60	6459.200080832178	632.5697482019796	600	7691.769829034158
61	7691.769829034158	748.3131523210905	600	9040.082981355248
62	9040.082981355248	874.9253723696274	600	10515.008353724876
63	10515.008353724876	1013.4270409900182	600	12128.435394714894
64	12128.435394714894	1164.934633276329	600	13893.370027991223
65	13893.370027991223	1330.6694668800264	600	15824.03949487125

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