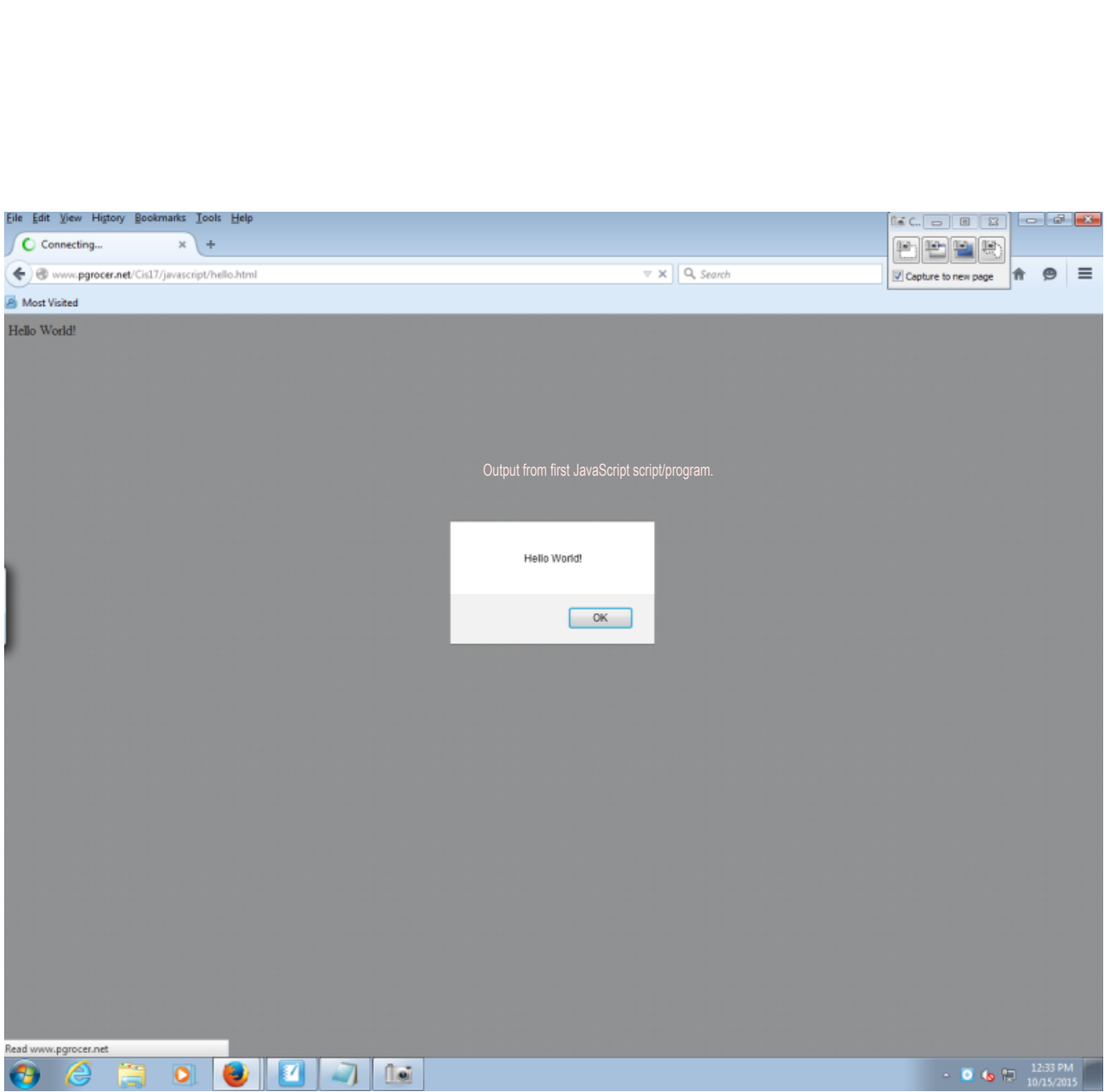


The screenshot shows a web browser window with the following content:

- Page Title:** Programs for CIS120/CIS17 - Programming: Logic, Design and Implementation
- Visual Basic (2010) section:**
 - firstSp12.zip - introduction to using VB2010
 - FirstMath.zip - calculations
 - basicMath.zip - calculations
 - loopswhile120.zip - introduction to loops
 - workareas.zip - introduction to variables
 - userInput.zip - introduction to user input
 - deptArray.zip - introduction to arrays
 - NextVB.zip - two programs in this zip
 - VBFI1 CIS120.zip - multiple programs
 - projWriteText.zip - creating a file
 - readProj.zip - reading a file
- JavaScript section:**
 - hello.html (highlighted with a pink arrow and labeled "Start here!")
 - multiply.html
 - multiplyans.html
 - addnum.html
 - addnumcont.html
 - mathans.html
 - ifwithaf.html
 - MAorRI.html
 - prob2.html
 - whileloop.html
 - doloop.html
 - ifwithloop.html
 - finaltotals.html
 - Loop comparison:
 - Math facts while loop
 - Math facts nested while loop
 - Math facts do...while loop
 - Math facts nested do...while loop
 - Math facts for loop
 - Math facts nested for loop
 - Arrays:
 - deptArray.html
 - thedata.html
 - thedata12.html
 - thedata12another.html
 - thedata11.html
 - soupparrays1.html Search using JavaScript
 - Guess number, one guess



File Edit View History Bookmarks Tools Help

http://www.pgro...ipt/hello.html x +

www.pgrocer.net/Cis17/javascript/hello.html

Most Visited

Hello World!

Source of: http://www.pgrocer.net/Cis17/javascript/hello.html - Mozilla Firefox

File Edit View Help

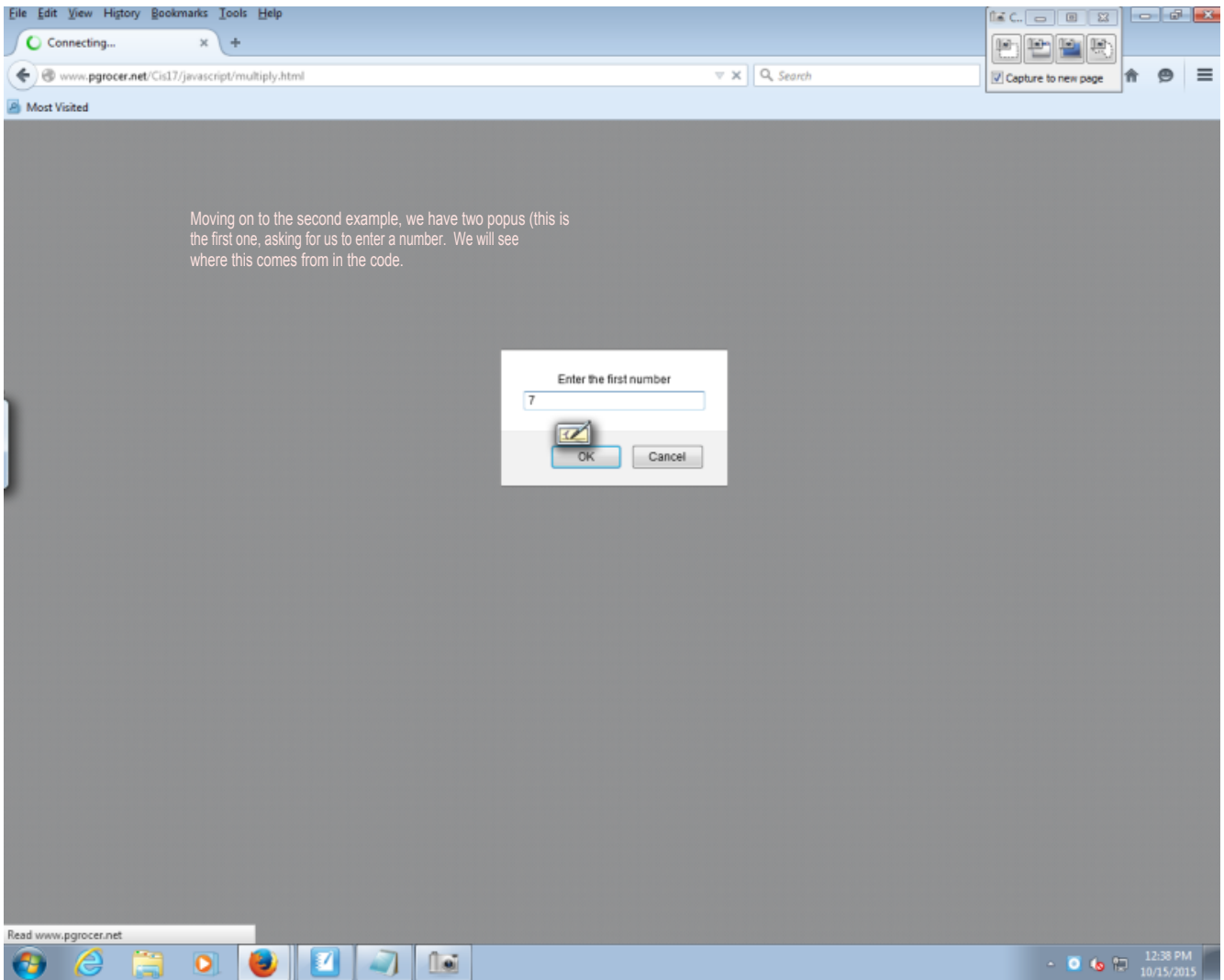
Note when a command is complete, I end with a semi-colon.

```
1 <html>
2 <script type="text/javascript">
3 document.write("Hello World!");
4 alert("Hello World!");
5 </script>
6 </html>
7
```

Remember when we used CSS with HTML, we had to specify <style> to tell the browser we were using CSS. Well now we need to use <script> to tell the browser we are using JavaScript.

POPUP

document.write()
alert()



14

```
1 <html>
2 <script type="text/javascript">
3   var ans = 0;
4   var firstnum = 0;
5   var secondnum = 0;
6   firstnum = prompt("Enter the first number", 0);
7   secondnum = prompt("Enter the second number", 0);
8   ans = firstnum * secondnum;
9   document.write(ans);
10 </script>
11 </html>
```

The flowchart consists of the following steps:

- Start (oval)
- declare (rectangle)
- firstnum (parallelogram)
- secondnum (parallelogram)
- multiply ans (rectangle)
- ans (parallelogram)
- stop (oval)

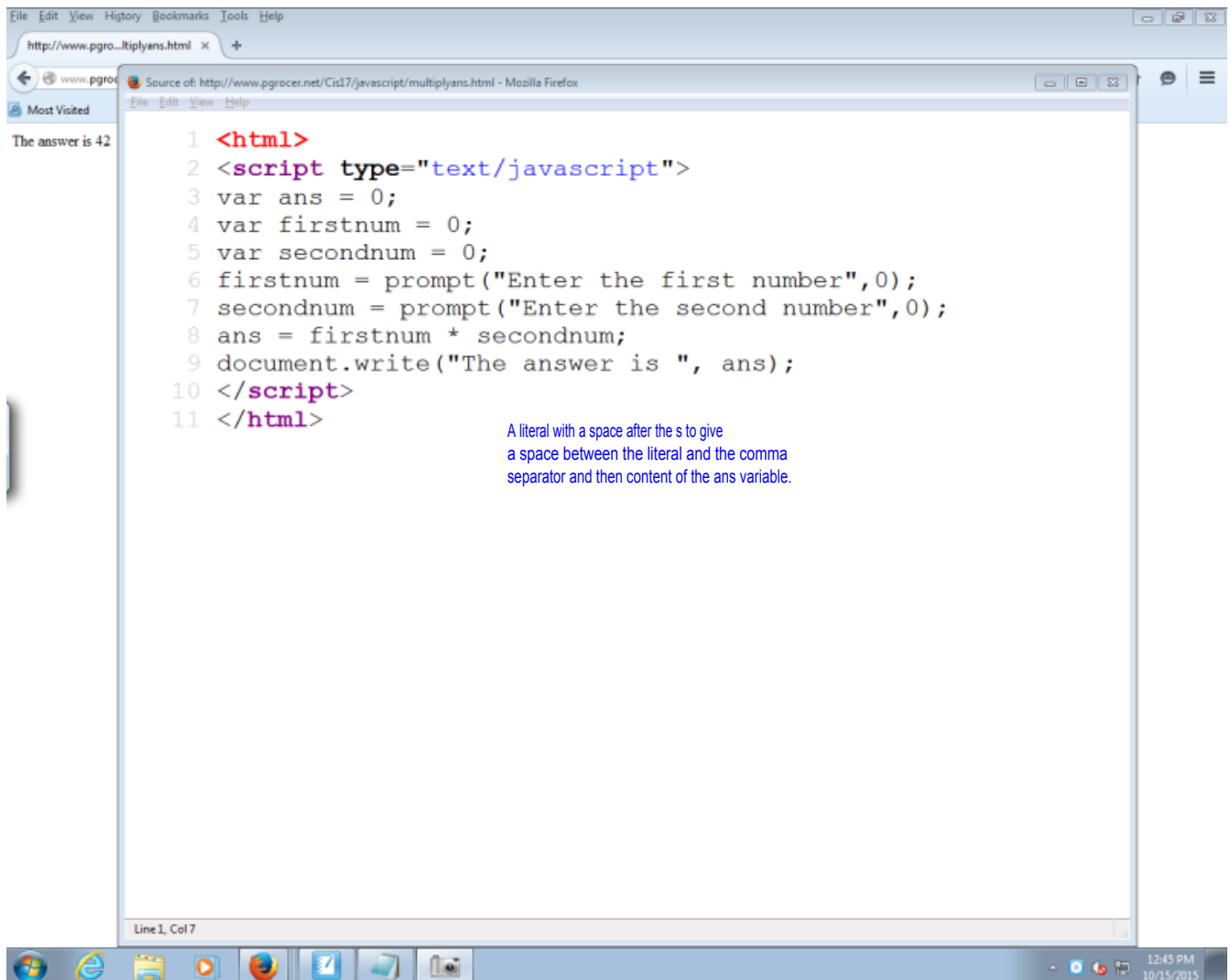
35

The screenshot shows a web browser window with the source code of a JavaScript multiplication program. The code is as follows:

```
1 <html>
2 <script type="text/javascript">
3 var ans = 0;
4 var firstnum = 0;
5 var secondnum = 0;
6 firstnum = prompt("Enter the first number", 0);
7 secondnum = prompt("Enter the second number", 0);
8 ans = firstnum * secondnum;
9 document.write(ans);
10 </script>
11 </html>
```

Handwritten annotations in blue and pink provide a step-by-step explanation of the code's execution:

- A pink dashed line highlights lines 6 and 7, indicating the input of values.
- Below the code, three variables are listed with their values: ans with 0 and 35, firstnum with 0 and 5, and secondnum with 0 and 7.
- A blue arrow points from the text "Write out variable" to line 9, `document.write(ans);`.
- Pink dashed arrows show the flow of data: from the input values (5 and 7) to the calculation of `ans = 5 * 7 = 35`.



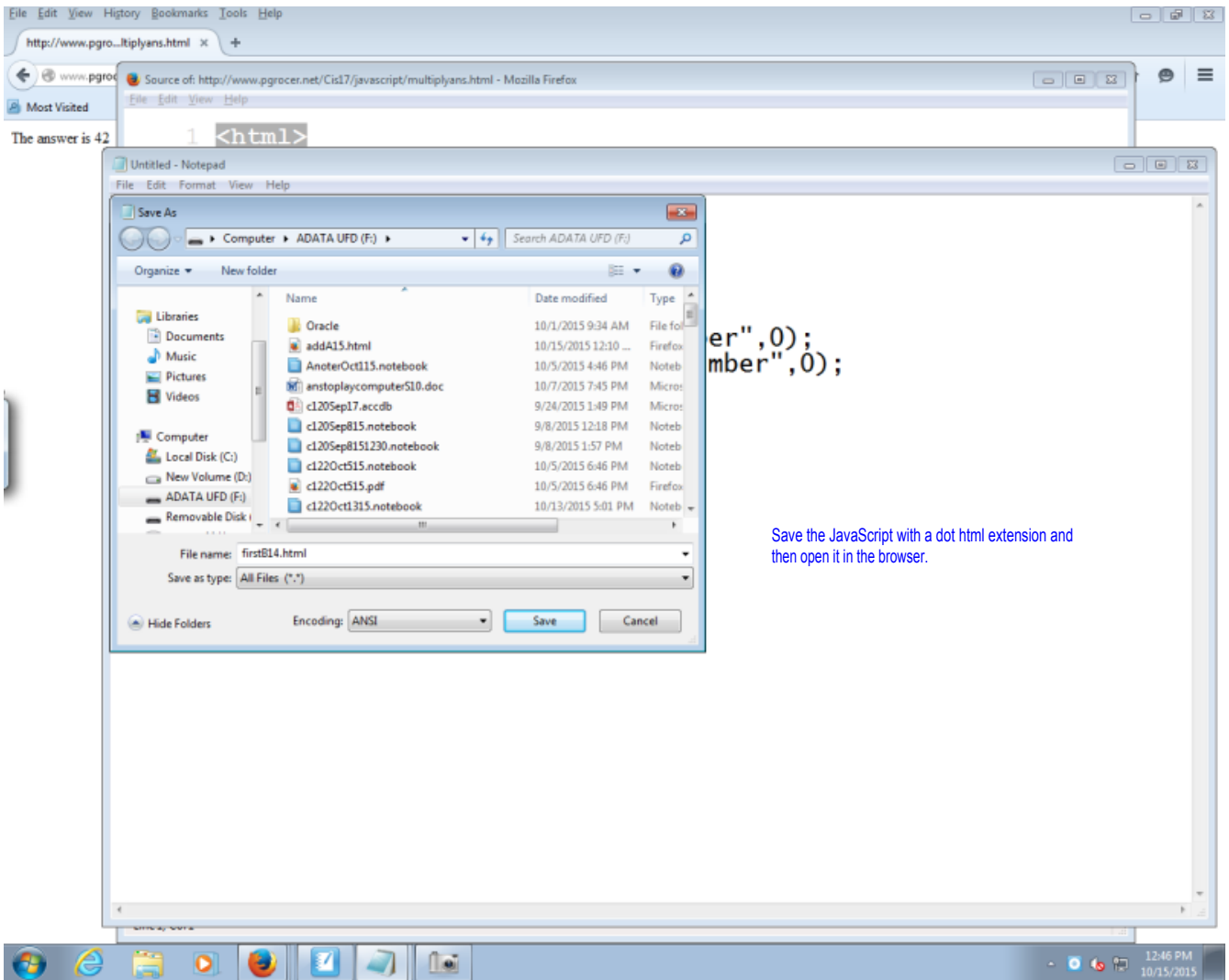
The answer is 42

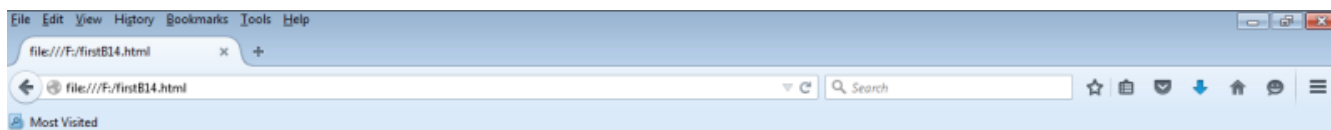
```
1 <html>
2 <script type="text/javascript">
3 var ans = 0;
4 var firstnum = 0;
5 var secondnum = 0;
6 firstnum = prompt("Enter the first number",0);
7 secondnum = prompt("Enter the second number",0);
8 ans = firstnum * secondnum;
9 document.write("The answer is ", ans);
10 </script>
11 </html>
```

A literal with a space after the s to give
a space between the literal and the comma
separator and then content of the ans variable.

Line 1, Col 7

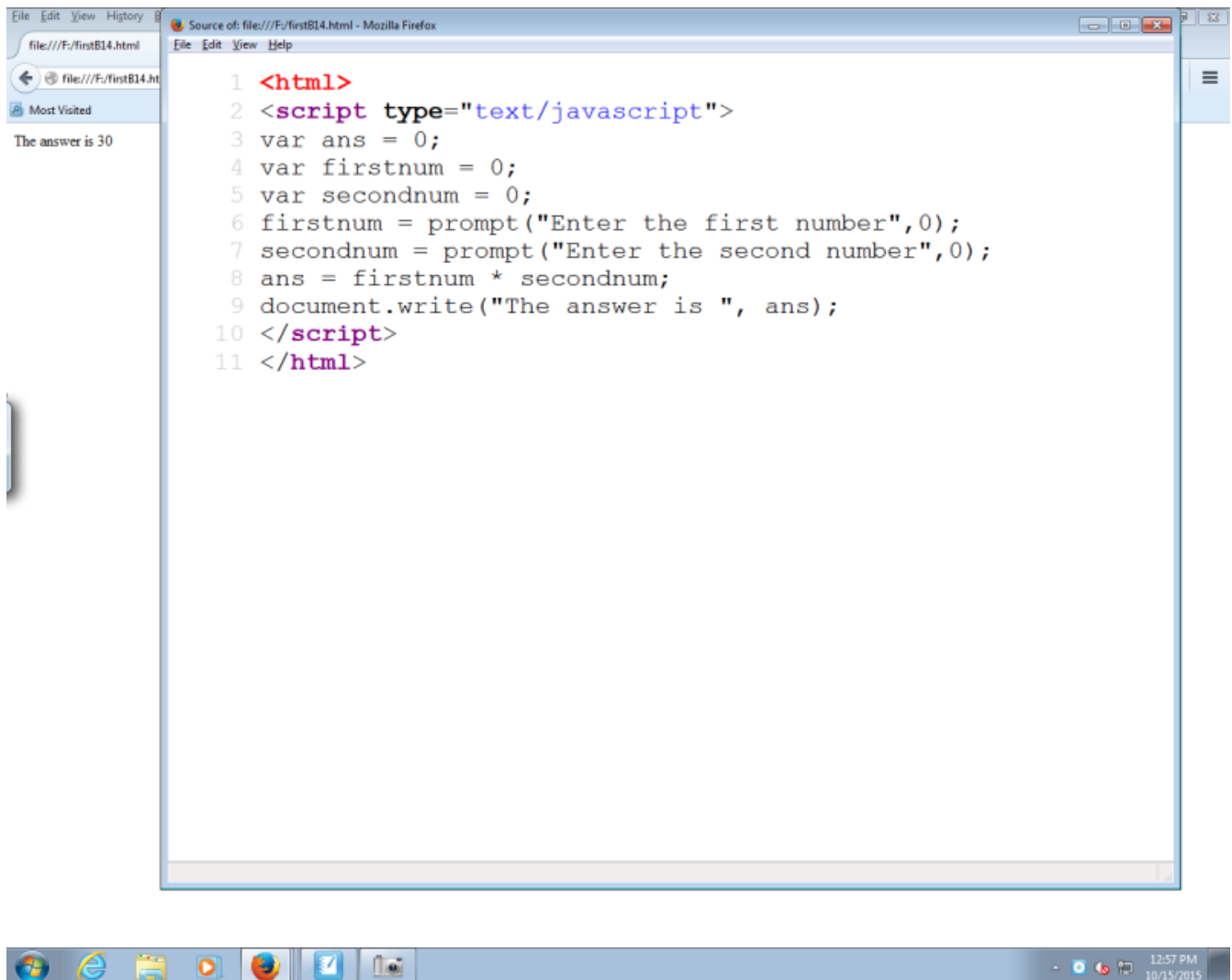
12:45 PM
10/15/2015





The answer is 30





```
1 <html>
2 <script type="text/javascript">
3 var ans = 0;
4 var firstnum = 0;
5 var secondnum = 0;
6 firstnum = prompt("Enter the first number",0);
7 secondnum = prompt("Enter the second number",0);
8 ans = firstnum * secondnum;
9 document.write("The answer is ", ans);
10 </script>
11 </html>
```

The answer is 30

12:57 PM
10/15/2015

```
1 <html>
2 <script type="text/javascript">
3 var ans = 0;
4 var otherans = 0;
5 var firstnum = 0;
6 var secondnum = 0;
7 firstnum = prompt("Enter the first number",0);
8 secondnum = prompt("Enter the second number",0);
9 ans = firstnum + secondnum;
10 document.write("The answer is ", ans);
11 otherans = parseFloat(firstnum) + parseFloat(secondnum);
12 document.write("<br>");
13 document.write("The answer is ", otherans);
14 </script>
15 </html>
```

The answer is 47
The answer is 11

document.write("
") sends the literal
 down to the browser which interprets it and moves to the next line.

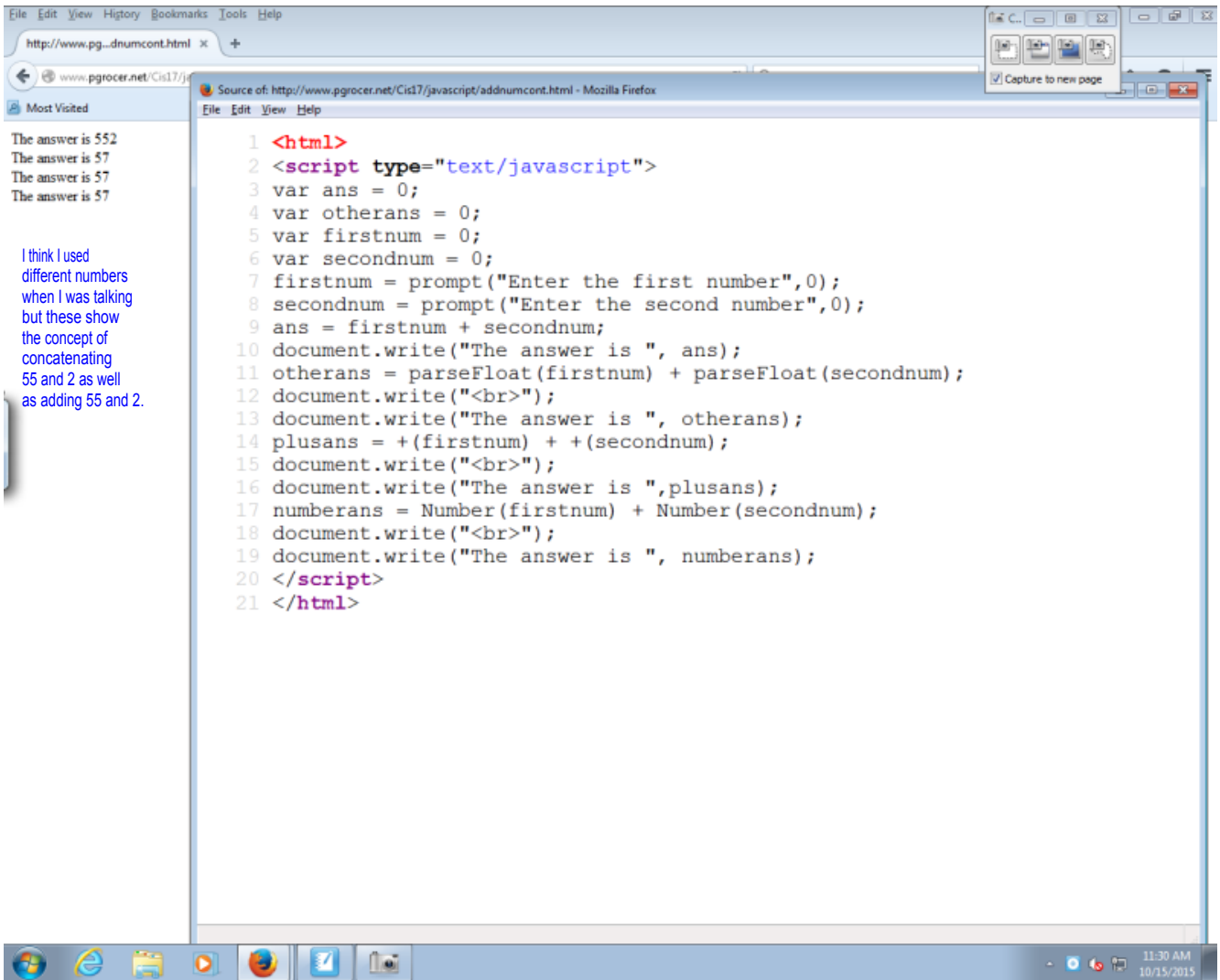
The + can mean add or concatenate so you have to clarify to the browser which you want. The first calculation defaulted to concatenation. When I used parseFloat to assure it was a number the browser did the addition.

*
*

*+ add
concatenate*

Line 15, Col 8

12:58 PM
10/15/2015



The answer is 552
The answer is 57
The answer is 57
The answer is 57

I think I used different numbers when I was talking but these show the concept of concatenating 55 and 2 as well as adding 55 and 2.

```
1 <html>
2 <script type="text/javascript">
3 var ans = 0;
4 var otherans = 0;
5 var firstnum = 0;
6 var secondnum = 0;
7 firstnum = prompt("Enter the first number",0);
8 secondnum = prompt("Enter the second number",0);
9 ans = firstnum + secondnum;
10 document.write("The answer is ", ans);
11 otherans = parseFloat(firstnum) + parseFloat(secondnum);
12 document.write("<br>");
13 document.write("The answer is ", otherans);
14 plusans = +(firstnum) + +(secondnum);
15 document.write("<br>");
16 document.write("The answer is ",plusans);
17 numberans = Number(firstnum) + Number(secondnum);
18 document.write("<br>");
19 document.write("The answer is ", numberans);
20 </script>
21 </html>
```

11:30 AM
10/15/2015

```
<html>
<script type="text/javascript">
var ans = 0;
var firstnum = 0;
var secondnum = 0;
var whattodo;
firstnum = prompt("Enter the first number",0);
secondnum = prompt("Enter the second number",0);
whattodo = prompt("Enter * or /","");
if (whattodo == "*")
{
  ans = firstnum * secondnum;
}
else
{
  ans = firstnum / secondnum;
}
document.write("The answer is ", ans);
</script>
</html>
```

= assign
== compare

The answer is 28

The if condition is enclosed in ().
Note the curly braces around the actions to take if the if is true and after the else the actions to take if the if is false.

```
1 <html>
2 <script type="text/javascript">
3 var ans = 0;
4 var firstnum = 0;
5 var secondnum = 0;
6 var whattodo;
7 firstnum = prompt("Enter the first number",0);
8 secondnum = prompt("Enter the second number",0);
9 whattodo = prompt("Enter * or /","");
10 if (whattodo == "*")
11 {
12     ans = firstnum * secondnum;
13 }
14 else
15 {
16     ans = firstnum / secondnum;
17 }
18 document.write("The answer is ", ans);
19 </script>
20 </html>
```

True (

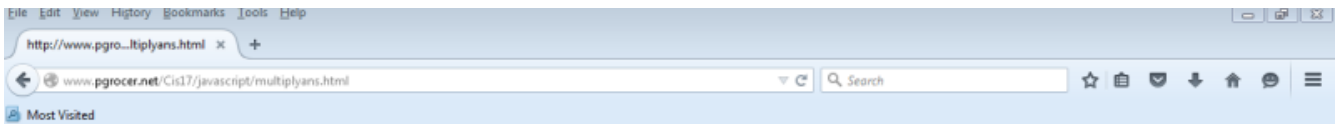
False (

= assign

== compare

no endix

↓



The answer is 36

Source of: <http://www.pgrocer.net/Cis17/javascript/multiplies.html> - Mozilla Firefox

```
File Edit View Help
1 <html>
2 <script type="text/javascript">
3 var ans = 0;
4 var firstnum = 0;
5 var secondnum = 0;
6 firstnum = prompt("Enter the first number",0);
7 secondnum = prompt("Enter the second number",0);
8 ans = firstnum * secondnum;
9 document.write("The answer is ", ans);
10 </script>
11 </html>
```

Remember this is when we just had a sequential flowchart.

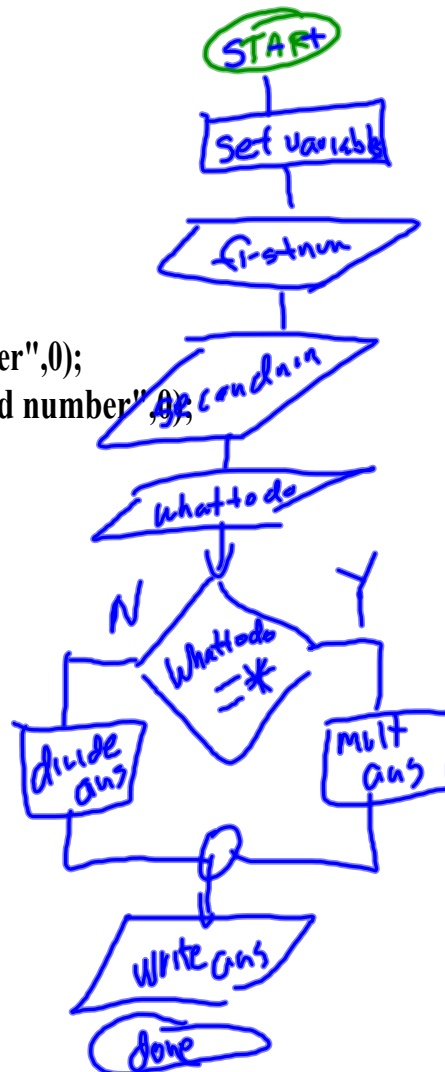
```
graph TD
    Start([Start]) --> Assign[assign variables]
    Assign --> First[/firstnum/]
    First --> Second[/secondnum/]
    Second --> Calc[ans = firstnum * secondnum]
    Calc --> Write[/write ans/]
```

Now we are looking at a flowchart with a condition.

```

<html>
<script type="text/javascript">
var ans = 0;
var firstnum = 0;
var secondnum = 0;
var whattodo;
firstnum = prompt("Enter the first number",0);
secondnum = prompt("Enter the second number",0);
whattodo = prompt("Enter * or /","");
if (whattodo == "*")
{
  ans = firstnum * secondnum;
}
else
{
  ans = firstnum / secondnum;
}
document.write("The answer is ", ans);
</script>
</html>

```



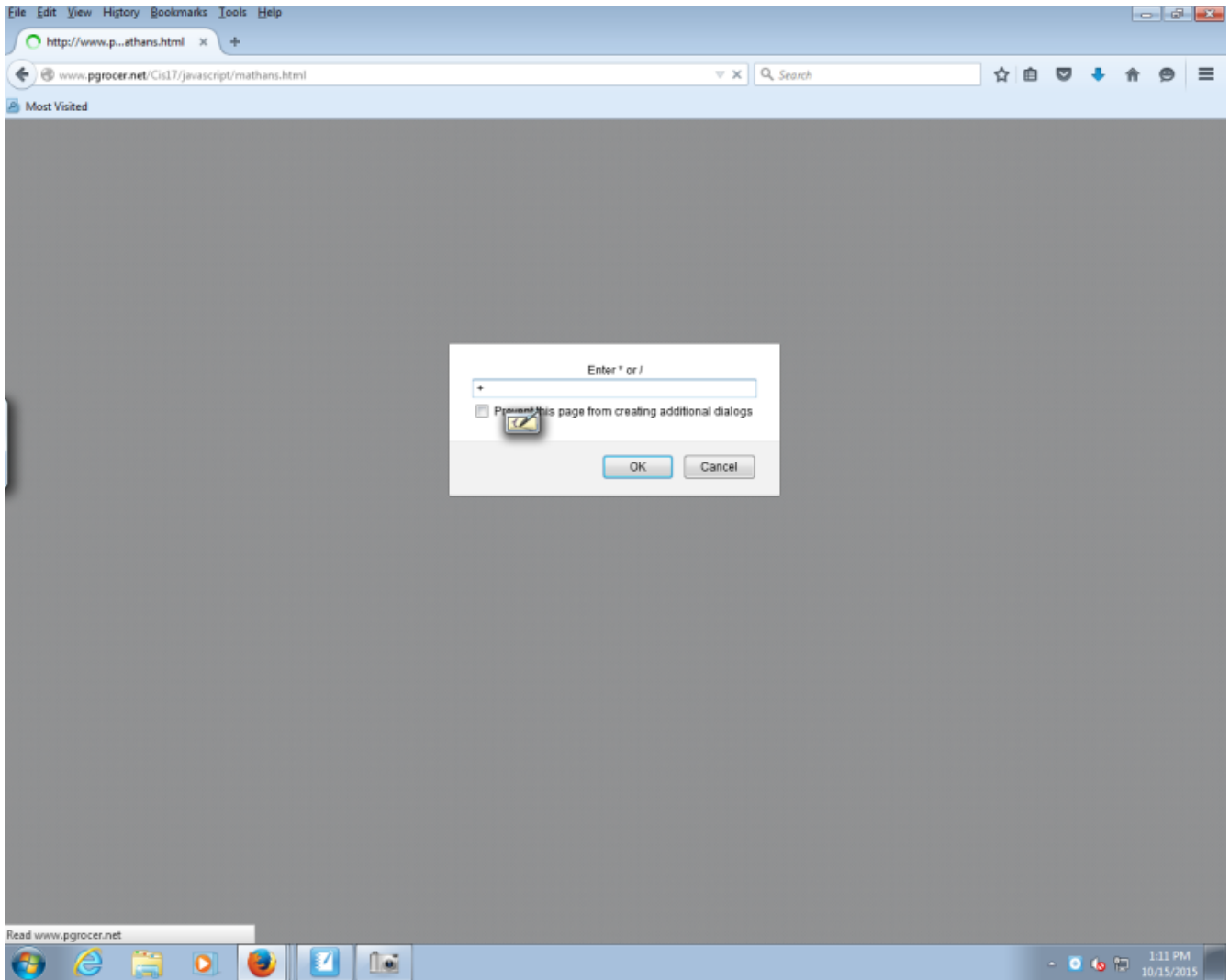
The screenshot shows a web browser window with the source code of a JavaScript program and a hand-drawn flowchart illustrating its logic.

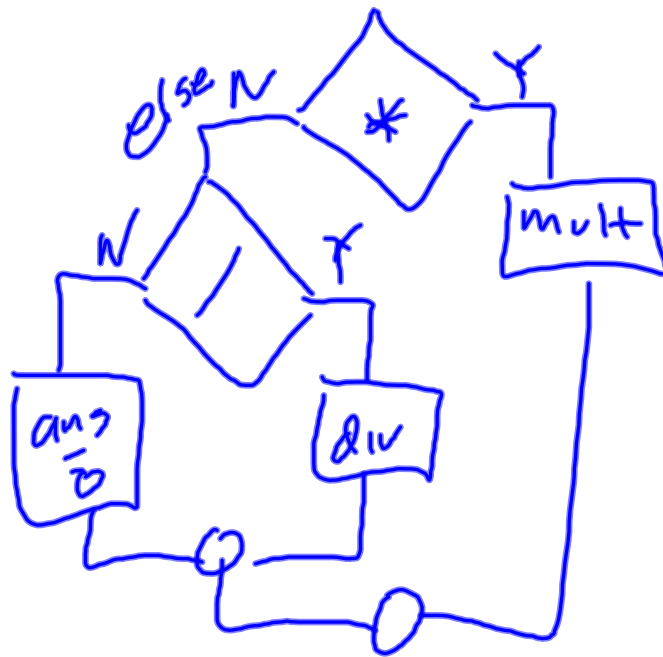
```
1 <html>
2 <script type="text/javascript">
3 var ans = 0;
4 var firstnum = 0;
5 var secondnum = 0;
6 var whattodo;
7 firstnum = prompt("Enter the first number",0);
8 secondnum = prompt("Enter the second number",0);
9 whattodo = prompt("Enter * or /","");
10 if (whattodo == "*")
11 {
12 ans = firstnum * secondnum;
13 }
14 else
15 {
16 ans = firstnum / secondnum;
17 }
18 document.write("The answer is ", ans);
19 </script>
20 </html>
```

Note that if whattodo is anything other than an * the else is executed so if you enter a + or a & or an A the divide will be done.

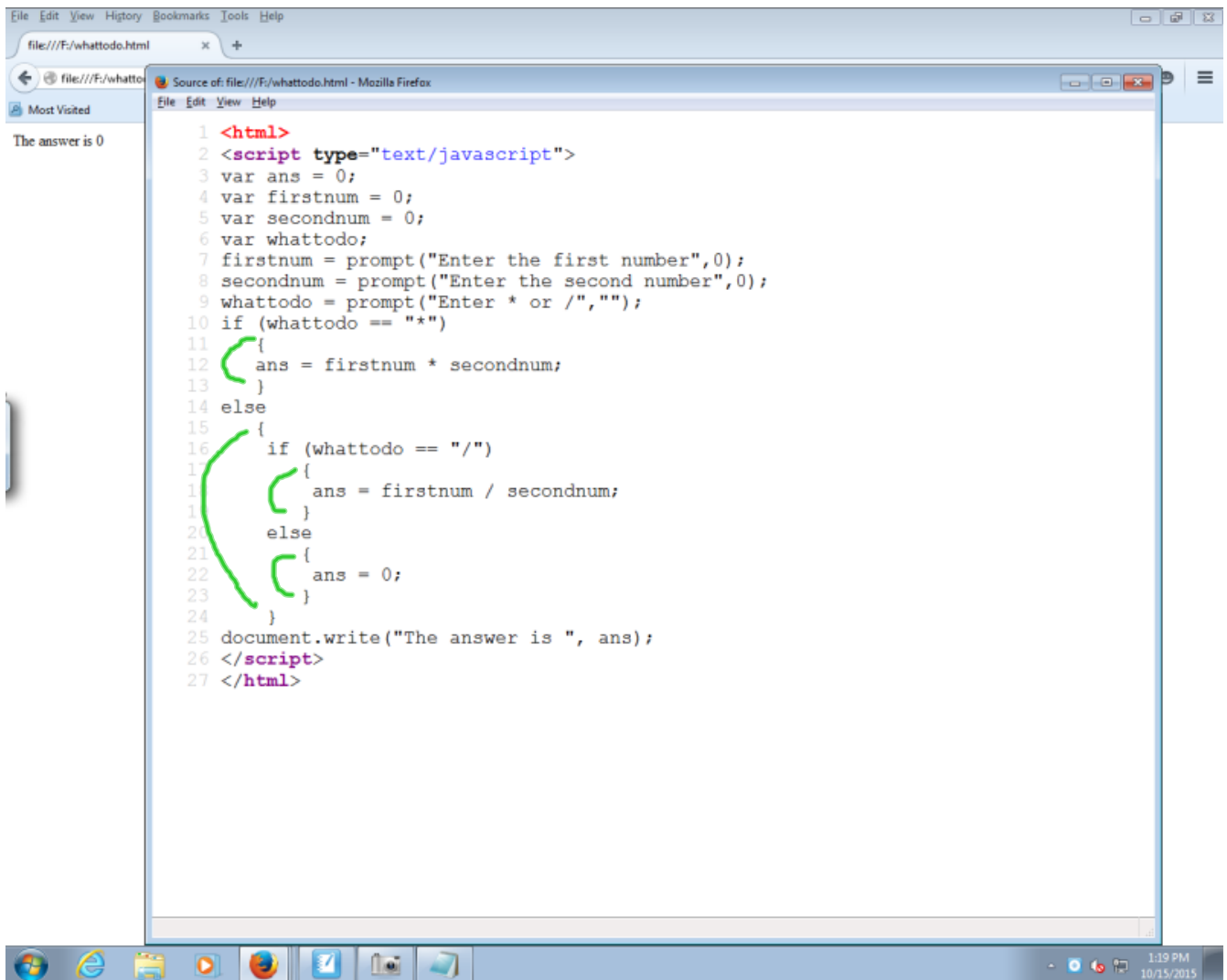
The flowchart on the right side of the browser window illustrates the program's execution flow:

- Start** (Oval)
- Declare** (Rectangle)
- firstnum** (Parallelogram)
- secondnum** (Parallelogram)
- whattodo** (Parallelogram)
- Decision** (Diamond): `whattodo == *`
 - N** (No): **divide ans** (Rectangle)
 - Y** (Yes): **multiply ans** (Rectangle)
- write ans** (Parallelogram)
- End** (Oval)





Now I had the class add in the ability to enter a + and get addition and a - and get subtraction.



The screenshot shows a Mozilla Firefox browser window with the source code of a file named 'whattodo.html'. The code is as follows:

```
1 <html>
2 <script type="text/javascript">
3 var ans = 0;
4 var firstnum = 0;
5 var secondnum = 0;
6 var whattodo;
7 firstnum = prompt("Enter the first number",0);
8 secondnum = prompt("Enter the second number",0);
9 whattodo = prompt("Enter * or /","");
10 if (whattodo == "*")
11 {
12     ans = firstnum * secondnum;
13 }
14 else
15 {
16     if (whattodo == "/")
17     {
18         ans = firstnum / secondnum;
19     }
20     else
21     {
22         ans = 0;
23     }
24 }
25 document.write("The answer is ", ans);
26 </script>
27 </html>
```

The browser's output area on the left shows the text "The answer is 0". The system tray at the bottom indicates the time is 1:19 PM on 10/15/2015.

The screenshot shows a Notepad window titled 'addA15.html - Notepad' with the following JavaScript code:

```
<html>
<script type="text/javascript">
var ans = 0;
var firstnum = 0;
var secondnum = 0;
var whattodo;
firstnum = prompt("Enter the first number",0);
secondnum = prompt("Enter the second number",0);
whattodo = prompt("Enter * or /","");
if (whattodo == "*")
{
ans = firstnum * secondnum;
}
else
{
if (whattodo == "/")
{
ans = firstnum / secondnum;
}
else
{
ans = 0;
}
}
document.write("The answer is ", ans);
</script>
</html>
```

Handwritten in blue ink is a flowchart that maps the logic of the code. It starts with a decision diamond labeled 'whattodo = /*'. The 'N' (No) path leads to a process box 'ans = 0'. The 'Y' (Yes) path leads to a process box 'multiply ans'. Another decision diamond labeled 'whattodo = /' is positioned below the first one. Its 'N' path leads to a process box 'ans = 0', and its 'Y' path leads to a process box 'divide'. Both 'multiply ans' and 'divide' boxes lead to a final junction point that connects to the 'document.write' line in the code.

File Edit View History Bookmarks Tools Help

file:///F:/whattodo.html x +

file:///F:/whatto Source of file:///F:/whattodo.html - Mozilla Firefox

File Edit View Help

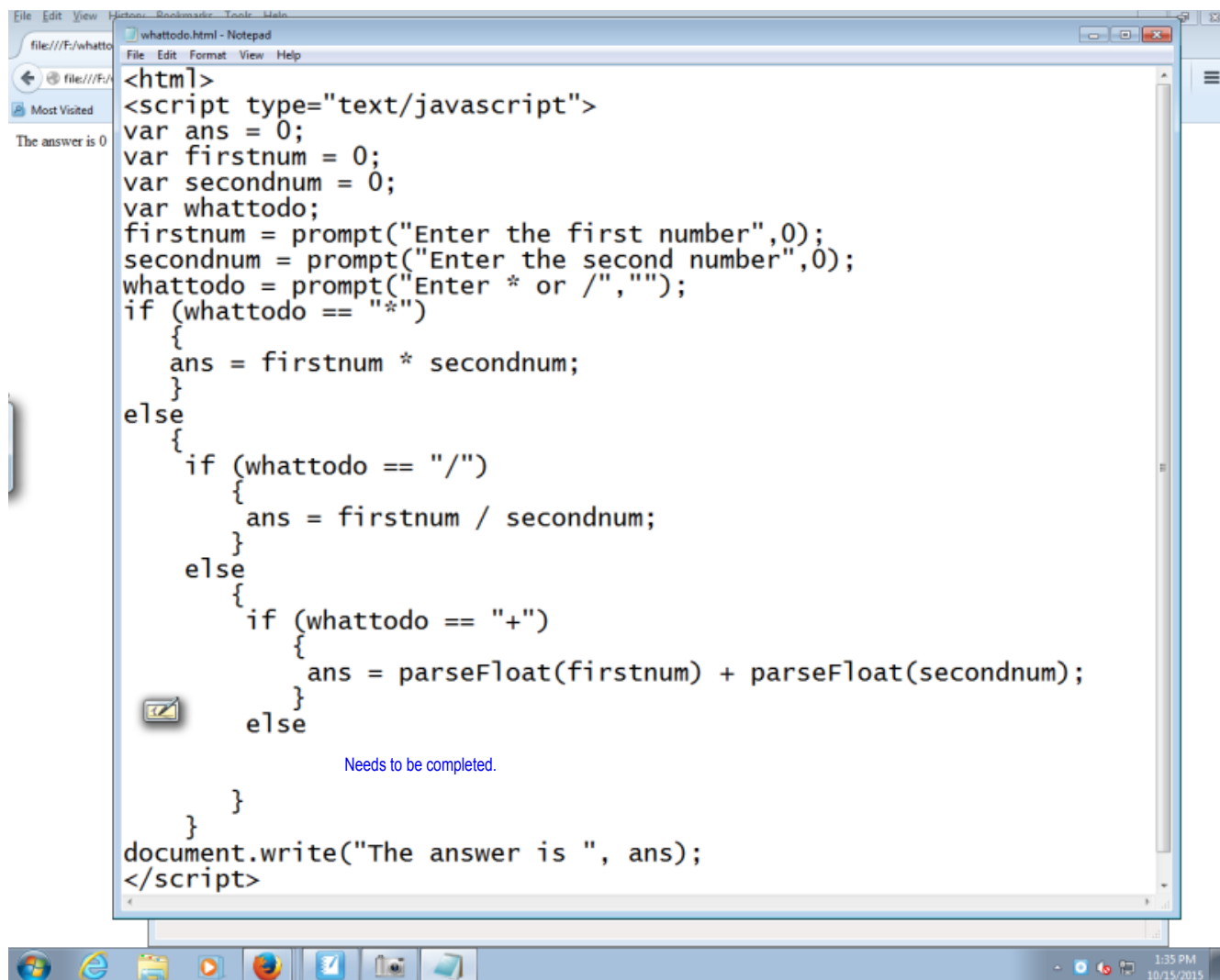
Most Visited

The answer is 0

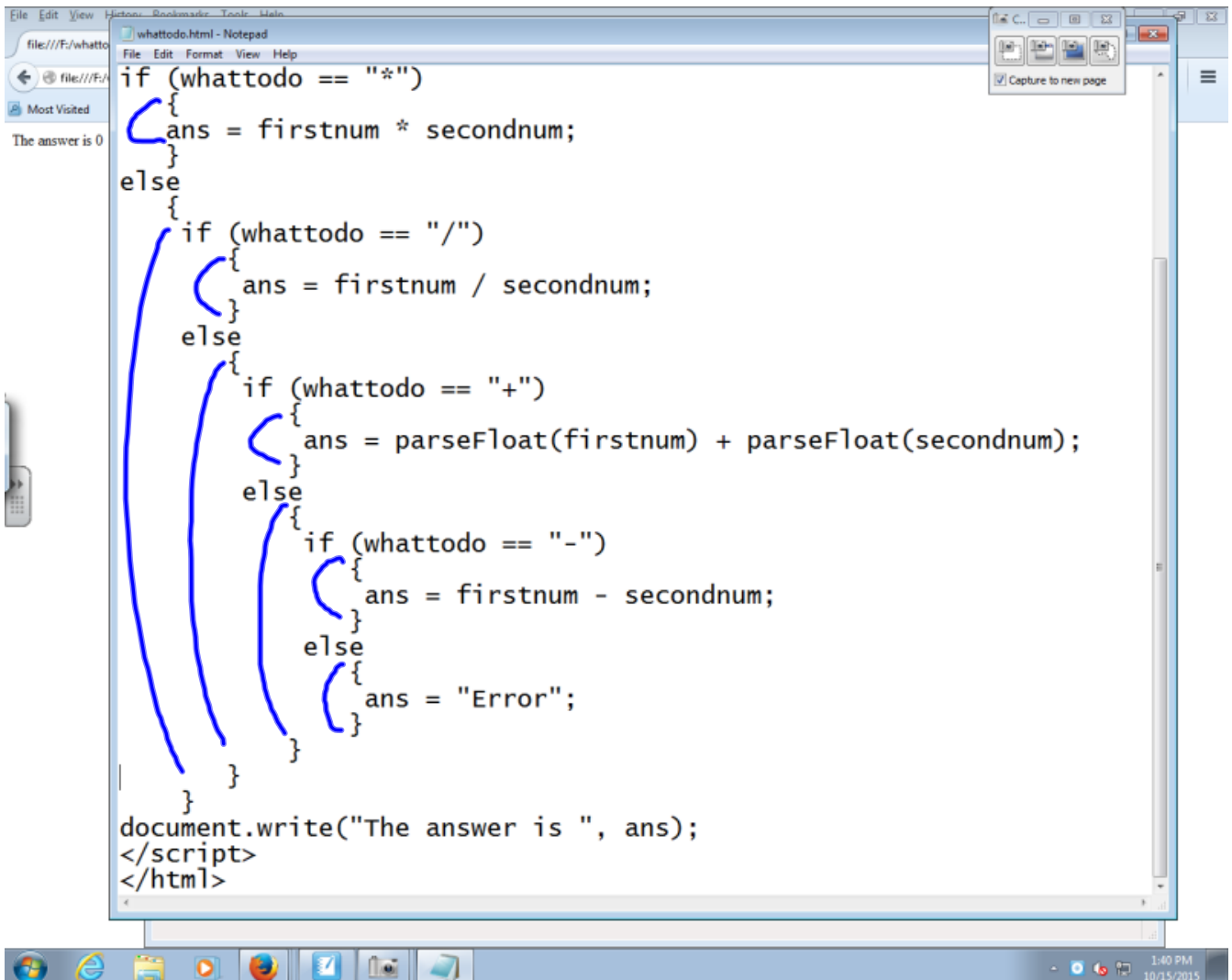
```
1 <html>
2 <script type="text/javascript">
3 var ans = 0;
4 var firstnum = 0;
5 var secondnum = 0;
6 var whattodo;
7 firstnum = prompt("Enter the first number",0);
8 secondnum = prompt("Enter the second number",0);
9 whattodo = prompt("Enter * or /","");
10 if (whattodo == "*")
11 {
12   ans = firstnum * secondnum;
13 }
14 else
15 {
16   if (whattodo == "/")
17   {
18     ans = firstnum / secondnum;
19   }
20   else
21   {
22     ans = 0;
23   }
24 }
25 document.write("The answer is ", ans);
26 </script>
27 </html>
```

The answer is 0

```
1 <html>
2 <script type="text/javascript">
3 var ans = 0;
4 var firstnum = 0;
5 var secondnum = 0;
6 var whattodo;
7 firstnum = prompt("Enter the first number",0);
8 secondnum = prompt("Enter the second number",0);
9 whattodo = prompt("Enter * or /","");
10 if (whattodo == "*")
11 {
12   ans = firstnum * secondnum;
13 }
14 else
15 {
16   if (whattodo == "/")
17   {
18     ans = firstnum / secondnum;
19   }
20   else
21   {
22     ans = 0;
23   }
24 }
25 document.write("The answer is ", ans);
26 </script>
27 </html>
```



```
<html>
<script type="text/javascript">
var ans = 0;
var firstnum = 0;
var secondnum = 0;
var whattodo;
firstnum = prompt("Enter the first number",0);
secondnum = prompt("Enter the second number",0);
whattodo = prompt("Enter * or /","");
if (whattodo == "*")
{
ans = firstnum * secondnum;
}
else
{
if (whattodo == "/")
{
ans = firstnum / secondnum;
}
else
{
if (whattodo == "+")
{
ans = parseFloat(firstnum) + parseFloat(secondnum);
}
else
{
Needs to be completed.
}
}
}
}
document.write("The answer is ", ans);
</script>
```

```
if (whattodo == "*")
{
    ans = firstnum * secondnum;
}
else
{
    if (whattodo == "/")
    {
        ans = firstnum / secondnum;
    }
    else
    {
        if (whattodo == "+")
        {
            ans = parseFloat(firstnum) + parseFloat(secondnum);
        }
        else
        {
            if (whattodo == "-")
            {
                ans = firstnum - secondnum;
            }
            else
            {
                ans = "Error";
            }
        }
    }
}

document.write("The answer is ", ans);
</script>
</html>
```

The answer is 0

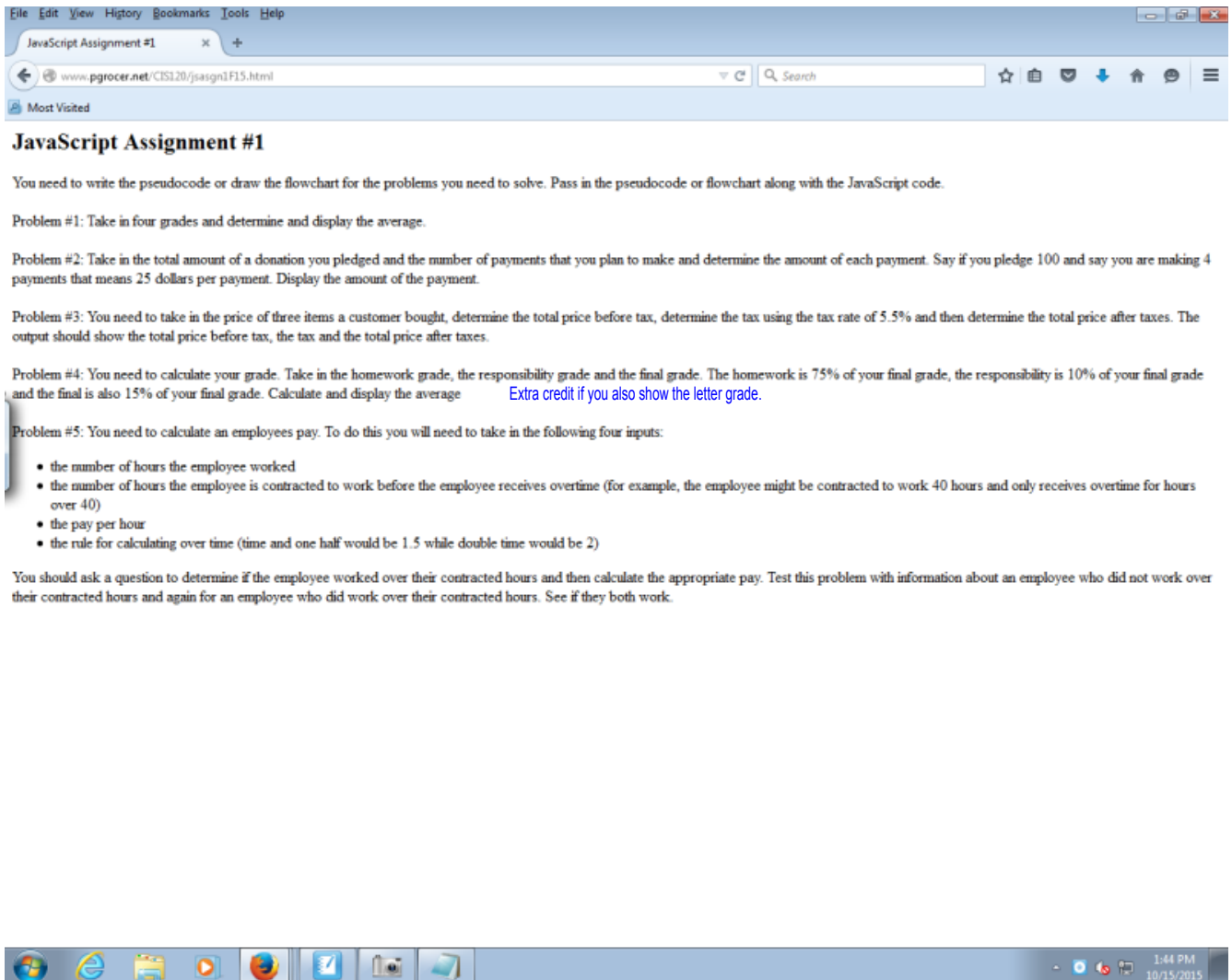
1:40 PM
10/15/2015

```
1 <html>
2 <script type="text/javascript">
3 var ans = 0;
4 var firstnum = 0;
5 var secondnum = 0;
6 var whattodo;
7 firstnum = prompt("Enter the first number",0);
8 secondnum = prompt("Enter the second number",0);
9 whattodo = prompt("Enter * or /,");
10 if (whattodo == "*")
11 {
12 ans = firstnum * secondnum;
13 }
14 else
15 {
16 if (whattodo == "/")
17 {
18 ans = firstnum / secondnum;
19 }
20 else
21 {
22 if (whattodo == "+")
23 {
24 ans = parseFloat(firstnum) + parseFloat(secondnum);
25 }
26 else
27 {
28 if (whattodo == "-")
29 {
30 ans = firstnum - secondnum;
31 }
32 else
33 {
34 ans = "Error";
35 }
36 }
37 }
38 }
39 document.write("The answer is ", ans);
40 </script>
41 </html>
```

I should change the prompt to say enter +, *, /
Note I enter something other than one of these symbols so I got an error.

The answer is Error

1:43 PM
10/15/2015



The screenshot shows a web browser window with the title "JavaScript Assignment #1". The address bar shows the URL "www.pgrocer.net/CIS120/jsasn1F15.html". The page content includes the following text:

JavaScript Assignment #1

You need to write the pseudocode or draw the flowchart for the problems you need to solve. Pass in the pseudocode or flowchart along with the JavaScript code.

Problem #1: Take in four grades and determine and display the average.

Problem #2: Take in the total amount of a donation you pledged and the number of payments that you plan to make and determine the amount of each payment. Say if you pledge 100 and say you are making 4 payments that means 25 dollars per payment. Display the amount of the payment.

Problem #3: You need to take in the price of three items a customer bought, determine the total price before tax, determine the tax using the tax rate of 5.5% and then determine the total price after taxes. The output should show the total price before tax, the tax and the total price after taxes.

Problem #4: You need to calculate your grade. Take in the homework grade, the responsibility grade and the final grade. The homework is 75% of your final grade, the responsibility is 10% of your final grade and the final is also 15% of your final grade. Calculate and display the average [Extra credit if you also show the letter grade.](#)

Problem #5: You need to calculate an employees pay. To do this you will need to take in the following four inputs:

- the number of hours the employee worked
- the number of hours the employee is contracted to work before the employee receives overtime (for example, the employee might be contracted to work 40 hours and only receives overtime for hours over 40)
- the pay per hour
- the rule for calculating over time (time and one half would be 1.5 while double time would be 2)

You should ask a question to determine if the employee worked over their contracted hours and then calculate the appropriate pay. Test this problem with information about an employee who did not work over their contracted hours and again for an employee who did work over their contracted hours. See if they both work.

The bottom of the screenshot shows a Windows taskbar with various application icons and a system tray displaying the time "1:44 PM" and date "10/15/2015".

The screenshot shows a web browser window with the title "JavaScript Assignment #1" and the URL "www.pgrocer.net/CIS120/jsasn1F15.html". The page content includes the following text:

JavaScript Assignment #1

You need to write the pseudocode or draw the flowchart for the problems you need to solve. Pass in the pseudocode or flowchart along with the JavaScript code.

Problem #1: Take in four grades and determine and display the average.

Problem #2: Take in the total amount of a donation you pledged and the number of payments that you plan to make and determine the amount of each payment. Say if you pledge 100 and say you are making 4 payments that means 25 dollars per payment. Display the amount of the payment.

Problem #3: You need to take in the price of three items a customer bought, determine the total price before tax, determine the tax using the tax rate of 5.5% and then determine the total price after taxes. The output should show the total price before tax, the tax and the total price after taxes.

Problem #4: You need to calculate your grade. Take in the homework grade, the responsibility grade and the final grade. The homework is 75% of your final grade, the responsibility is 10% of your final grade and the final is also 15% of your final grade. Calculate and display the average.

Problem #5: You need to calculate an employees pay. To do this you will need to take in the following four inputs:

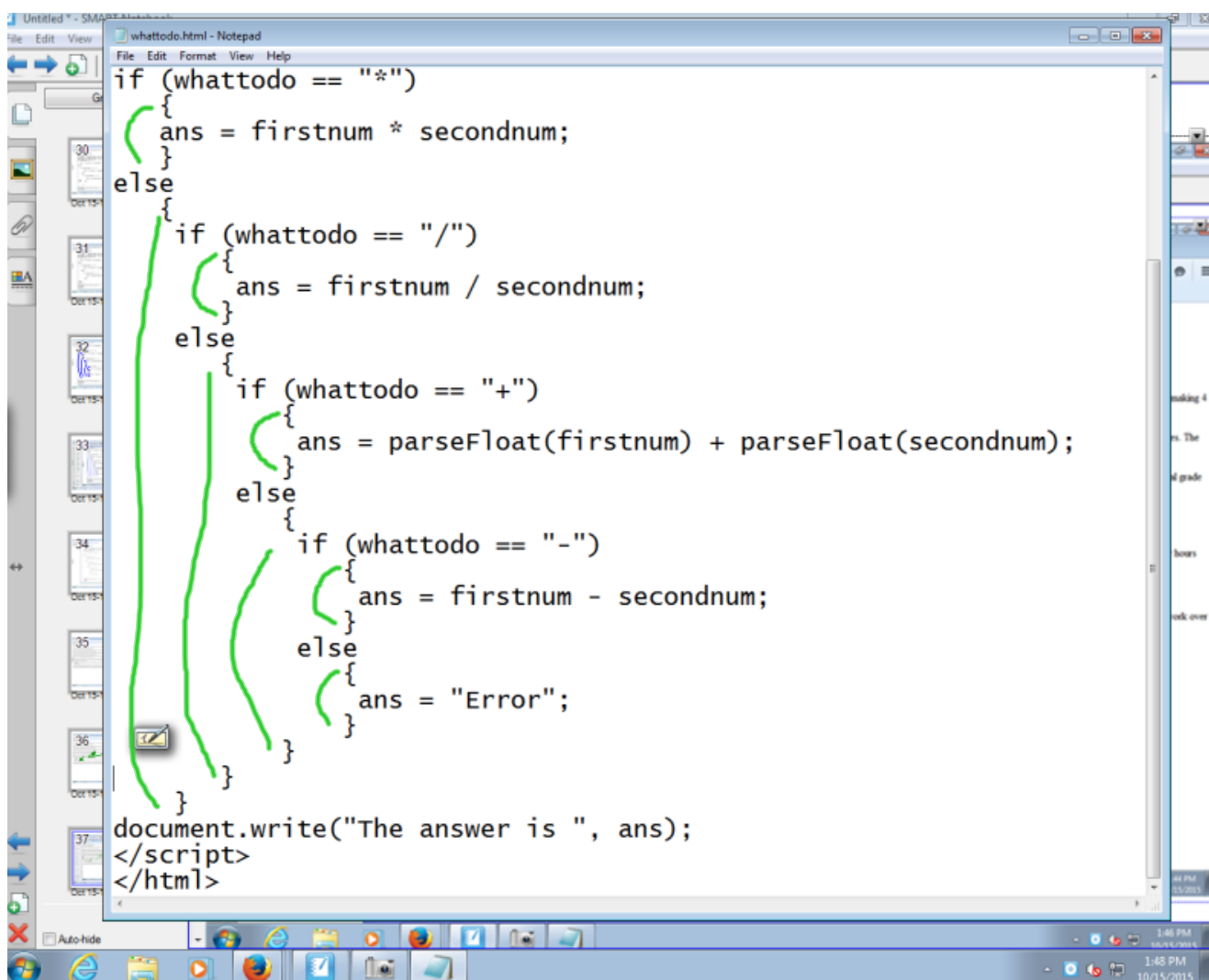
- the number of hours the employee worked
- the number of hours the employee is contracted to work before the employee receives overtime (for example, the employee might be contracted to work 40 hours and only receives overtime for hours over 40)
- the pay per hour
- the rule for calculating over time (time and one half would be 1.5 while double time would be 2)

You should ask a question to determine if the employee worked over their contracted hours and then calculate the appropriate pay. Test this problem with information about an employee who did not work over their contracted hours and again for an employee who did work over their contracted hours. See if they both work.

Handwritten annotations in green ink are present on the page:

- A large green checkmark is drawn over the first two bullet points of Problem #5.
- The number "50" is written above the first bullet point.
- The number "40" is written above the second bullet point.
- The number "25" is written to the left of the third bullet point.
- The number "1.5" is written to the right of the fourth bullet point.

The Windows taskbar at the bottom shows the system tray with the time "1:44 PM" and date "10/15/2015".



```
if (whattodo == "*")
{
ans = firstnum * secondnum;
}
else
{
if (whattodo == "/")
{
ans = firstnum / secondnum;
}
else
{
if (whattodo == "+")
{
ans = parseFloat(firstnum) + parseFloat(secondnum);
}
else
{
if (whattodo == "-")
{
ans = firstnum - secondnum;
}
else
{
ans = "Error";
}
}
}
}
}
document.write("The answer is ", ans);
</script>
</html>
```