JavaScript Prompt for Input Data
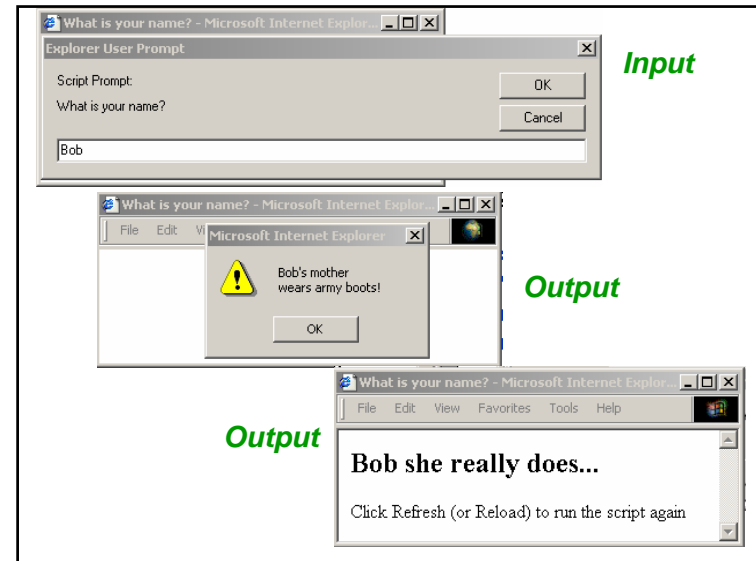
❖ **window.prompt(prompt, default)**
  ◆ **Return the string entered to assigned variable**

```
<head>
  <title>What is your name?</title>
  <script type="text/javascript">
    var FirstName;  // String of characters entered variable
    FirstName = window.prompt( "What is your name?", "" );
    window.alert(FirstName + "\'s mother\nwears army boots!");
    document.writeln("<h2>" + FirstName + " she really does...</h2>");
  </script>
</head>
<body>
  <p>Click Refresh (or Reload) to run the script again</p>
</body>
```

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Input

Output

Output

JavaScript Variables

❖ **A Variable is a container of data**
❖ **Variables declared with var statement**
  ◆ **var i; // Single variable declaration**
  ◆ **var firstEntry, secondEntry, j, M; // Multiple variables**
  ◆ **var i=0, j=0; // Variables can be initialized to a value**
❖ **Declaration statements end with semicolon (;)**
❖ **Multiple variable declaration comma separated**
❖ **Variable name can be any valid identifier.**
  ◆ **An identifier is a name for a variable of function**
  ◆ **Consisting of letters, digits, "_" and "$"**
  ◆ **Can NOT begin with a digit**
  ◆ **Can NOT have spaces or symbols other then _ and $**
  ◆ **Can NOT be a JavaScript keyword**

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JavaScript Keywords

❖ **JavaScript has only 22 keywords that can NOT be used for an identifier name.**

break	case	continue	delete	do
else	false	for	function	if
in	new	null	return	switch
this	true	typeof	var	void
while	with			

❖ **Twelve other keywords also can not be used for identifiers**

catch	class	const	debugger	default
enum	export	extends	finally	import
super	true			

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JavaScript Data Types and Values

❖ **JavaScript is "loosely" typed language**
❖ **Simple Data Types**
  ◆ **String of text**
    ♦ Symbolized using **"abc123"** or **'abc123'**
    ♦ Special Characters may be used **\n \t \b \" \'**
  ◆ **Number**
    ♦ 8 byte (64 bit) floating point format $\pm$1.8 x 10$^{\pm308}$
    ♦ *int* **parseInt(** *string* **)**
      ▸ Converts string to integer (whole number)
      ▸ Drops all fractional part to right of decimal point
    ♦ *float* **parseFloat(** *string* **)**
      ▸ Converts string to floating point (real number)
      ▸ Keeps fractional part to right of decimal point

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JavaScript Arithmetic Operators

❖**Used to perform arithmetic operations on numbers and data contained in variables, with the result usually assigned to variable**
❖**Order of precedence determines which order the operations will be performed**
❖**Note that the assignment operator = is defined last and precedence is last**
❖**For readability insert parenthesis if order of operation not apparent in code**

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Arithmetic Operators Precedence

(Highest to Lowest)

( ) **Defines order of operation**

– **Negative (unary)**

* / % **Multiply, Division, Remainder**

+ – **Addition, Subtraction**

= **Assignment**

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Operator Evaluation Examples

```
<head>
  <title>Test Score</title>
  <script type="text/javascript">
    var Remainder, AvgScore;
    var   Score = 93, ScoreCount = 1, TotalScore;
    TotalScore = Score;
    Score = 78;
    TotalScore = TotalScore + Score;
    ScoreCount = ScoreCount + 1;
    AvgScore = TotalScore / ScoreCount;
    document.writeln("<p>" + TotalScore % ScoreCount + "</p>");
    document.writeln("<p>Average = " + AvgScore
       + "<br /> F &lt; " + AvgScore / 2 + "</p>");
  </script>
</head>
<body>
</body>
```

```
1

Average = 85.5
F < 42.75
```

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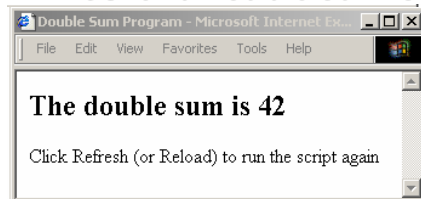## Exams Average Example

```
<head>
  <title>Test Score</title>
  <script type="text/javascript">
   var AvgScore, Score, TotalScore = 0;
   Entry = window.prompt( "Enter Exam 1 Score", "0" );
   Score = parseFloat(Entry);
   TotalScore = TotalScore + Score;
   Entry = window.prompt("Enter Exam 2 Score", "0" );
   Score = parseFloat(Entry);
   TotalScore = TotalScore + Score;
   Entry = window.prompt("Enter Exam 3 Score", "0" );
   Score = parseFloat(Entry );
   TotalScore = TotalScore + Score;
   document.writeln("Average Score = " + TotalScore / 3);
  </script>
 </head>
 <body>
 </body>
```

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```
<head>
  <title>Double Sum Program</title>
  <script type="text/javascript">
   var firstEntry, secondEntry; // Strings entered by user
   var Number1, Number2,      // Converted number entries
      Sum, Double;          // sum of number1 and number2
   //Prompt and Receive numbers
   firstEntry = window.prompt( "Enter first number", "0" );
   secondEntry = window.prompt( "Enter second number", "0" );
   // Convert numbers from strings to integers
   Number1 = parseInt( firstEntry );
   Number2 = parseInt( secondEntry );
   // Add the numbers
   Sum = Number1 + Number2;
   Double = Sum * 2;
   // Display the results
   document.writeln( "<h2>The double sum is " + Double + "</h2>" );
  </script>
 </head>
 <body>
  <p>Click Refresh (or Reload) to run the script again</p>
 </body>
```

GUI and Double Sum Shorter Program

Double Sum Program - Microsoft Internet Ex...
File Edit View Favorites Tools Help

The double sum is 42

Click Refresh (or Reload) to run the script again

```
<head> <title>Double Sum Program</title>
  <script type="text/javascript">
   var Num1, Num2;        // Converted number entries
   Num1 = parseFloat(window.prompt( "Enter first number", "0" ));
   Num2 = parseFloat(window.prompt( "Enter second number", "0" ));
   document.writeln( "<h2>The double sum is " + (Num1+Num2)*2 + "</h2>" );
  </script>
 </head>
 <body>  <p>Click Refresh (or Reload) to run the script again</p>
 </body>
```

Coding Exercise

1. **Create a JavaScript program that will prompt for an integer number and display in the browser window:**
    - ◆ **This number with color blue and 18 pt font size**
    - ◆ **Square of the number in red and font size 14**
    - ◆ **Cube of the number in green and and font size 14**
    - ◆ **Also display your name in the browser window**

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