

Exercise Thirty

Create two identifiers – **nav** and **content**.

Nav will have the following style rules: width of 20%, height 1000px, floating at the left of the page. It will have a thick, dotted, orange border on the right side. The background color will be gold. Padding of 15px.

Content will have the following style rules: width of 80%, float at the right of the page. Padding will be 10px.

The body of the page will have a margin of 0px and a font-family of Trebuchet MS.

(See page 293 of your text to help you with this.)

The content is as follows:

Nav

Suburbs

Malvern
Hawthorn
Toorak



<h2>

Content

Malvern



<h2>

A leafy suburb with wide streets and big houses. Shopping is very good with some major chain stores and speciality boutiques in the main shopping strip. Restaurants and cafes are everywhere. People prefer to sit at pavement tables on sunny days so they can sit and see the people as they pass by.

Exercise Thirty-One

1. Create a web page with the `<title>My first JavaScript</title>`
This web page will include a script for writing the title on the web page.
2. Use `document.write` to write the following on a web page using JavaScript.

This is my first JavaScript page.
So far, so good.

3. Use `document.write` to type on the screen **Hello World** as a heading one.

Have a look at this code:

```
<html>
<head>
<title>a script</title>
<script language="javascript">
<!--

today = new Date();

document.write(today.getDate() + ":")
// gets the day
document.write(today.getMonth() + 1 + ":")
// Gets the Month
// Months are: Jan = 0, Feb = 1, etc. Therefore add 1 to
// "getMonth".
document.write(today.getYear())
//Gets the Year
</script>
-->
</script>
</head>
<body>
</body>
</html>
```

What will be displayed on the screen?

This will be displayed on the screen when the user opens the page. How could you control where on the screen the script will appear?

Exercise Thirty-Two

Compare these codes:

```
<html>
<head>
<script language="JavaScript">

document.write("Hello World");

</script>
<body>
</body>
</html>
```

```
<html>
<head>
<script language="JavaScript">

window.alert("Hello World");

</script>
<body>
</body>
</html>
```

```
<html>
<head>
<script language="JavaScript">

function hello() {

window.alert("Hello World");

}

</script>
<body>
<form name="testform">
<input type="button" onclick="hello()" value="Click Me">
</form>
</body>
</html>
```

How does each one vary?

Exercise Thirty-Three

Write a web page that uses a variable of your name and then writes that variable onto the web page.

```
<html>
<head>
<title>JavaScript Exercises</title>
<script language="JavaScript">

var name =

</script>
</head>
<body>
<p>As you can see, my name is written at the top of this
web page.</p>
</body>
</html>
```

Change the above to include your name as a <H2>.

Write a web page that has two variables $x = 2$ and $y = 4$. Include each as a simple maths operation ie $2 + 4$, $2 / 4$, $2 * 4$, $2 - 4$.

```
<html>
<head>
<script language="JavaScript">

var x =

document.write(
document.write(
document.write(
document.write(

</script>
</head>
<body>
<p>Above are some maths examples.</p>
</body>
</html>
```

How can you make
sure each answer is
on a new line?

Change the code above so that the actual equation appears on the screen ie $2 * 4 = 8$

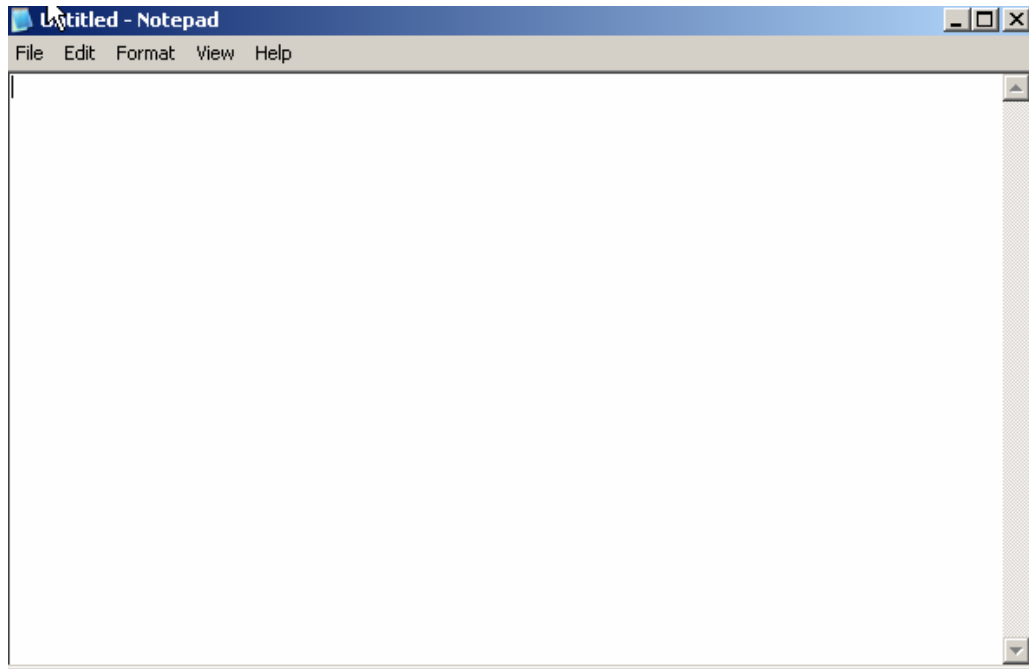
Exercise Thirty-Four

What would be the outcome of this JavaScript?

```
<html>
<head>
<title>a script</title>
<script>
    function timestable()
    {
        for (x = 1; x <=12; x++)
        {
            document.write(x + " timestable" + "<br>");
            for (y = 1; y <= 12; y++)
            {
                document.write(x + " x " + y + " = " );
                answer = x * y;
                document.write(answer + "<br>");
            }
        }
    }
</script>
</head>
```

Exercise Thirty-five

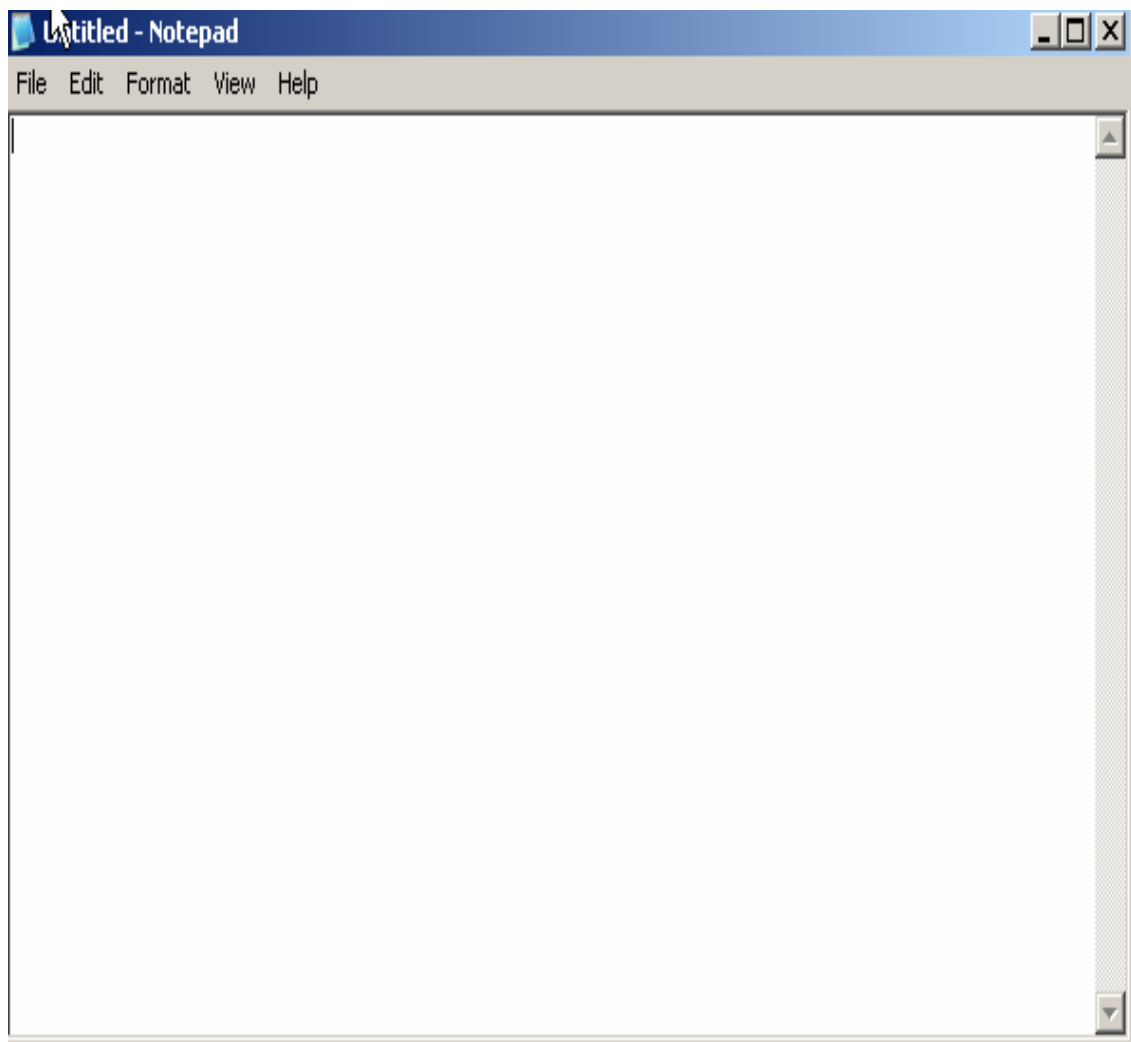
1. Write an external stylesheet that specifies body text with the font Trebuchet MS and heading one with the font Georgia and the color of brown.



Save the external stylesheet as **java.css**.

2. Write a web page that:

- has the title JavaScript Exercises
- links to the stylesheet **java.css**
- has a script in the head that write *Hello World* onto the page as a heading 1
- set the body color to salmon
- has a script in the body that writes the text, “The background color of this page is “
- and then writes the background color onto the page.
- in the body of the document will be the paragraph: This web page using script to write onto the page itself. It shows an example of writing a string of text and it also shows writing of document properties. It also includes some HTML tags as part of the script.



Exercise Thirty-six

1. Look at this JavaScript and explain what it will do:

```
<html>
<head>
<title>JavaScript Exercises</title>
<link rel="stylesheet" href="java.css" type="text/css">
<script language="JavaScript">

result = document.lastModified
result2 = document.location
document.write(result + "<br>")
document.write(result2)

</script>
</head>

</body>
</html>
```

2. What is the output of this JavaScript?

```
<html>
<body>

<script type="text/javascript">
var d = new Date()
document.write(d.getDate())
document.write(".")
document.write(d.getMonth() + 1)
document.write(".")
document.write(d.getFullYear())
</script>

</body>
</html>
```

Exercise Thirty-Seven

1. Look at this code:

```
<html>
<body>

<script type="text/javascript">
var d = new Date()
var time = d.getHours()

if (time < 12)
{
document.write("<b>Good morning</b>")
}
</script>

<p>
This example demonstrates the If statement.
</p>

<p>
If the time on your browser is less than 10,
you will get a "Good morning" greeting.
</p>

</body>
</html>
```

Change the code above to include an “else” write on the screen “Good Afternoon”.

2. Write a script that sets a variable called grade with the value 80. The script will determine if the figure is above 50. If it is, the phrase “Contratulations, you have passed.” will be written onto the screen.
3. Further amend the above code that if the result is less than 50 the phrase “Sorry, you have failed.”

Exercise Thirty-eight

1. Look at this code:

```
<HTML>
<HEAD>
<TITLE>Grade Script</TITLE>
<SCRIPT language="JavaScript">
<!--
function getStatus(grade){
    if(grade >= 70){
        document.write("Congratulations, you passed.")
    }
    else{
        document.write("Sorry, you did not pass.")
    }
}
//-->
</SCRIPT>

</HEAD>
<BODY bgcolor="white">

<P>
<SCRIPT language="JavaScript">
<!--
    document.write("Mary - ") + getStatus("94") +
    document.write("<BR>")
    document.write("Jim - ") + getStatus("70") +
    document.write("<BR>")
    document.write("Albert - ") + getStatus("65") +
    document.write("<BR>")
    document.write("Carroll - ") + getStatus("88") +
    document.write("<BR>")
    document.write("Francis - ") + getStatus("44") +
    document.write("<BR>")
//-->
</SCRIPT>

</BODY>
</HTML>
```

2. What will be the screen output?

3. How can you explain the `getStatus` and the following ("94")

4. Make a modification to the script that so that a letter grade is displayed instead of pass or fail. This letter grade should be based on the following:

A is a grade of 90 or greater

B is a grade of 80 or greater, but less than 90

C is a grade of 70 or greater, but less than 80

F is any grade below 70

Exercise Thirty-Nine

What will the output from this script be?

```
<HTML>
<HEAD><TITLE>Examples of using JavaScript Numbers and
Operators</TITLE>
</HEAD>
<BODY>
<PRE>
    <SCRIPT Language="JavaScript">
        <!--
        document.write("5 / 10 = ")
        document.writeln(5 / 10)

        document.write("5 + 10 = ")
        document.writeln(5 + 10)

        document.write("5 + \"Hello\" = ")
        document.writeln(5 + "Hello")

        document.write("5 - 10 = ")
        document.writeln(5 - 10)

        document.write("5 * 10 = ")
        document.writeln(5 * 10)

        document.write("10 / 5 = ")
        document.writeln(10/5)

        document.write("5 % 10 = ")
        document.writeln(5%10)

        document.write("10 % 5 = ")
        document.writeln(10 % 5)

        document.write("5 < 10 = ")
        document.writeln(5 < 10)

        document.write("5 > 10 = ")
        document.writeln(5 > 10)

        document.write("5 <= 10 = ")
        document.writeln(5 <= 10)

        document.write("5 >= 10 = ")
        document.writeln(5 >= 10)

        document.write("5 == 10 = ")
        document.writeln(5 == 10)
```

```

document.write("5 != 10 = ")
document.writeln(5 != 10)
document.writeln()

document.writeln("x = 5")
x = 5
document.write("x++ = ")
document.writeln(x++)
document.write("x = ")
document.writeln(x)
document.writeln()

document.writeln("x = 5")
x = 5
document.write("++x = ")
document.writeln(++x)
document.writeln()

document.writeln("x = 5")
x = 5
document.write("x-- = ")
document.writeln(x--)
document.write("x = ")
document.writeln(x)
document.writeln()

document.writeln("x = 5")
x = 5
document.write("--x = ")
document.writeln(--x)
document.writeln()

// -->
</SCRIPT>
</PRE>
</BODY>
</HTML>

```

Exercise Forty

String Exercises

Character positions:

H	e	l	l	o		W	o	r	l	d
0	1	2	3	4	5	6	7	8	9	10

1. What will be the output of this code?

```
<html>
<head>
<title>Strings in Javascript</title>
<script language="JavaScript">

test = "hello world";

function StringTest()
{
document.write (test.length);
}

</script>
</head>
<body>
<h3>The string "Hello World" has the length of:
<script>
StringTest()
</script> characters.
</h3>
</body>
</html>
```

2. Write a function called **StringTest**. This will have a variable string named test with the string *"Hello World"*.

You then want to achieve the following screen output:



3.

`string.charAt()` tests to see which character is in which position.

Finish the code below to write on the screen the character at position 0.

```
<html>
<head>
<title>Strings in Javascript</title>
<script language="JavaScript">

test = "hello world";

function StringTest()

{

}

</script>
</head>
<body>
The string "Hello World" has what character at 0
position?
<script>
StringTest()
</script>

</body>
</html>
```


4.

`indexOf ()` tests for the position of a substring.

Write the beginning of this code:

```
<body>
The string "hello world" has "world" beginning at which
position?
<script>
StringTest()
</script>

</body>
</html>
```

5.

`string.substr(a,b)` will return the string starting at position `a` until the number specified in `b`.

Name a variable `test` which contains the value `What is the weather like outside`.

Write the code to find the substring that begins at position 5 and goes for the next 2 characters.

6.

Using `indexOf()` to test if an @ symbol appears in a string:

```
<HTML>
<HEAD>
<TITLE>String.indexOf Example</TITLE>
</HEAD>
<BODY>
<SCRIPT LANGUAGE="JavaScript">
  str_email = prompt("Enter an email address", "");

  if(str_email.length==0) {
    alert("
  }
  else if(str_email.indexOf(" ")== -1) {
    alert("Your email address does not contain @");
  }
  else {
    document.write("The @ symbol occurs at index "
                  + str_email.indexOf("@"));
    document.write(" in: <BR>" + str_email);
  }
</SCRIPT>
</BODY>
</HTML>
```

prompt is a popup window
that asks for information
from your visitor

What message
could you put
here?

What
symbol goes
here?

What is the text output if the user
types the email address:
mmouse@deakin.edu.au

Exercise 41

Look at this code.

```
<HTML>
<HEAD>
<TITLE>Experiments with Simple Objects.</TITLE>

<SCRIPT Language="JavaScript">
<!--

function Question(question, answer){
    this.question = question
    this.answer    = answer
}

questions = new Array()
questions[0] = new Question("What is the sum of 5 and
3?", 8)
questions[1] = new Question("What is the sum of 8 and
3?", 11)
questions[2] = new Question("What is the sum of 9 and
2?", 11)

for (i = 0; i < questions.length; i++){
    userAnswer = prompt(questions[i].question, "")
    if (userAnswer == questions[i].answer){
        alert("Correct")
    }
    else {
        alert("Not Correct")
    }
}

//-->
</SCRIPT>
</HEAD>
<BODY>
</BODY>
</HTML>
```

This code introduces the concept of an array. The Array object is used to store a set of values in a single variable name. Each value is an element of the array and has an associated index number.

You create an instance of the Array object with the "new" keyword.

In the example above what is the variable?

What is the name of the array?

How many instances are there of it?

The first instance of an array is what number?

What is the name for the section beginning with `for (i= etc`

How do you think the page will present itself?

Exercise Forty-Two

`window` is the highest level in the Document Object Model

```
window.open( )
```

`target="_blank"` opens new windows but you have no control over the appearance of the window. `window.open` allows you more control.

It has 3 arguments: the URL to go to, a window name, and any features.

You don't have to specify a name or features if you don't want to.

```
window.open( "http://www.deakin.edu.au", "deakinWin", "width=600,height=600" )
```

The possible features are:

```
width height location menubar resizable scrollbars status toolbar
```

Finish this code to open the file **special.html** when the user leaves the page. The window will be 350 x 450. It will not have a name.

```
<script language="JavaScript">
```

```
function bye() {
```

```
</script>
```

```
<body >
```

2. Compare these two instances of `window.open`.

What will the web page look like? How will the open windows be different?

```
<html>
<head>
<title>Javascript</title>
</head>
<body>

<a href="#"
onClick="window.open('http://www.deakin.edu.au',
'newWnd','width=500,height=400')">Try this</a><br />

<a href="#"
onClick="window.open('http://www.deakin.edu.au',
'newWnd','width=500,height=400,menubar=yes,location=yes,
scrollbars=yes,toolbar=yes')">Try this</a>
</body>
</html>
```

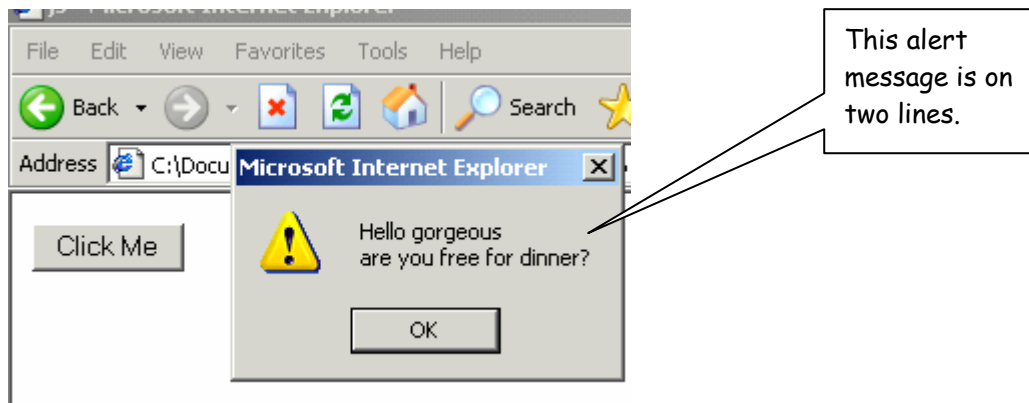
Exercise Forty-Three

Write a function called **hello** that creates a variable called **currentTime**. If the time is less than 12 it will write a message onto the screen that says *Good Morning*, else if the time is less than 17 it will write the message onto the screen *Good Afternoon*, else write *Good Evening*. This message will appear when a user opens a page.

Exercise Forty-Four

Write the code for a page that has a button on it that say Click Me. When you user clicks on it, an alert will appear with the text: Hello Gorgeous.

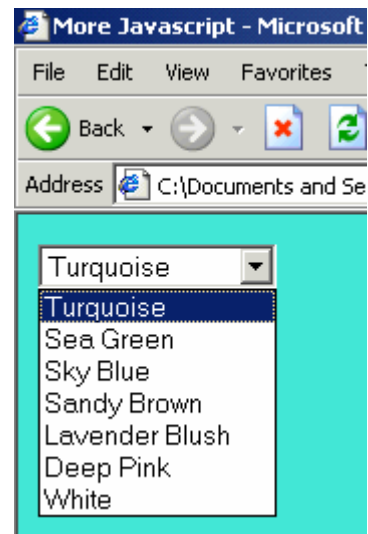
Amend the code so that the alert looks like this:



Exercise Forty-Five

Write a web page that has a form with a selection list of different colors like this:

Each option must have a color as a value.



If I add:

```
<select onChange="document.bgColor=this.options  
[this.selectedIndex].value">
```

What do you think it will do?

Exercise Forty-Six

Email validation

```
<html>
<head>
<script type="text/javascript">
function validate()
{
x=document.myForm
at=x.myEmail.value.indexOf("@")
if (at == -1)
{
    alert("Not a valid e-mail")
    return false
}
}
</script>
</head>

<body>

<form name="myForm"
action="whatever" onSubmit="return validate()">
Enter your E-mail address:
<input type="text" name="myEmail">
<input type="submit" value="Send input">
</form>
</body>
</html>
```

What is the name of the function?

What does myForm refer to?

What are the variables?

What does indexOf do?

What is the event that triggers the validation?

Draw an image of what the user will see on this page.

Exercise Forty-Seven

```
<html>
<head>

<script type="text/javascript">
function validate()
{
x=_____
txt=_____
if (txt>=_ && txt____)
{
return true
}
else
{
alert("Must be between 1 and 5")
return false
}
}
</script>
</head>

<body>
<form name="myForm" action="something" _____="return
validate()">

Enter a value from 1 to 5:
<input type="text" name="myInput">

<input type="_____" value="Send input">

</form>
</body>
</html>
```

Read this script.

What will it do?

Replace all blank _____ with code to complete the script.

Exercise Forty-Eight

```
<html>
<head>

<script type="text/javascript">
function _____()
{
x=document.myForm
input=_____
if _____
{
  alert("Do not insert more than 5 characters")
  return false
}
else
{
  return _____
}
}
</script>
</head>

<body>
<form name="myForm" action="something" _____>

  In this input box you are not allowed to insert more than
  5 characters:
  <input type="text" name="myInput">

  <input type="submit" value="Send input">

</form>
</body>
</html>
```

Read this script.

What will it do?

Replace all blank _____ with code to complete the script.

Exercise Forty-Nine

```
<html>
<head>
<script type="text/javascript">
function validate()
{
x=document.myForm
at=x.myEmail.value.indexOf("@")
code=x.myCode.value
firstname=x.myName.value
submitOK="True"
if (at==-1)
{
alert("Not a valid e-mail")
submitOK="False"
}
if (code<1 || code>5)
{
alert("Your code must be between 1 and 5")
submitOK="False"
}
if (firstname.length>10)
{
alert("Your name must be less than 10 letters")
submitOK="False"
}
if (submitOK=="False")
{
return false
}
}
</script>

</head>
<body>

<form name="myForm" action="something " onsubmit="return validate()">

Enter your e-mail:
<input type="text" name="myEmail">
<br>
Enter your code, value from 1 to 5:
<input type="text" name="myCode">
<br>
Enter your first name, max 10 letters:
<input type="text" name="myName">
<br>
<input type="submit" value="Send input">
</form>
</body>
</html>
```

Explain what is happening in this script and recreate its page.

