HW #6 for COS 231 Fall 2003
JavaScript and CGI

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General Description

• Along with HW #6, are 4 handouts.
• Two cover JavaScript and two cover CGI and perl
• You can do all the following exercises using only your web browser to check the JavaScript and the perl compiler to execute the perl scripts.
• You can give yourself an additional challenge by trying to set up and run the Apache web server on your system
The Apache Web Server and CGI

• Chapter 16 of your textbook describes the configuration of the Apache Web Server.
• If you have the time, interest and setup, you can get the Apache Server to run on your system and use it to test the results of your exercises.
• It is not required that you do so – I am just pointing out the possibility.

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EXERCISE 1

• The next two slides show the desired forms
• Please prepare them, and test them using your web browser and perl compiler
Please enter your first name: George
Please enter your last name: Markowsky

Reset Submit Query

EXERCISE 1

Prepare a form that looks like this.
Prepare a cgi script that produces an output that looks like this.

Hint: Consider using scalar localtime
EXERCISE 2

• Write a cgi script that tells how many visitors a webpage has had
  – It reads the number from a file
  – It increments the number by 1
  – It generates a page like the one at left
  – It saves the incremented number

• Try to make it look like the example on the following page
EXERCISE 3

• Write a form that transmits a name and password, and some secret information
• Write a perl script that receives the name, password and secret information and stores them in a file
• Write another webpage and cgi script that permit you to retrieve the secret information if you give the correct name and password
EXERCISE 4

• Write a Web page that uses JavaScript to detect the browser that is looking at it.
• Make your page look something like the following.
Detecting Browsers

You are using Netscape 4.75 [en] (Win95; U)
Detecting Browsers

You are using Microsoft Internet Explorer 4.0 (compatible; MSIE 5.0; Windows 95; DigExt)

Version: 5.00.2314.1003
Cipher Strength: 128-bit (Update Information)
Product ID:50071-417-0932455-04619

Based on NCSA Mosaic. NCSA Mosaic(TM); was developed at the National Center for Supercomputing Applications at the University of Illinois at Urbana-Champaign.

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EXERCISE 5

• Write a page that shows how to use JavaScript to get input from the user and to get the user's attention
• Make it look like the following page
• Be sure to include alerts, confirmations and prompts

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Alerts, Confirmations, and Prompts

The buttons below test user inputs in JavaScript.

- Display an Alert
- Display a Confirmation
- Display a Prompt
EXERCISE 6

• Write a form that uses JavaScript and which has a simple input textbox that will permit you to change the background color of the form.

• Make it look like the following form

• Note that you should be able to enter the background color both as a designated name, such as green, and using the RGB number
Color Example

Please enter the background color you want:

```
#ff00ff
```

New Color
EXERCISE 7

• Use Javascript to put up alerts when a web page is first loaded and also when the browser wants to move to another web page.

• Your product should look like the following.
Loading and Unloading Pages

This page displays a dialog when you load it, and another dialog when you unload it.

Hello, you have just loaded this page.
Loading and Unloading Pages

This page displays a dialog when you load it, and another dialog when you unload it.

[JavaScript Application]

You unloaded the page. Goodbye!

OK
EXERCISE 8

• Create two jpg files using a suitable graphics program
• Alternatively, you can download A.jpg and B.jpg from my UMaine web site
• Then create a Web page that uses Javascript to create rollovers as illustrated by the following slide
EXERCISE 8

<table>
<thead>
<tr>
<th>Rollovers</th>
<th>Rollovers</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>B</td>
</tr>
</tbody>
</table>

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EXERCISE 9

• Put together a form that looks like the following
• Add names to all of the different form elements so you can refer to those names in the future
The Input Tag

This is a button: ☐
This is a checkbox: ☐
This is a file: [Browse...]

This is hidden: This is a password: [Password]

This is a radio button: ☐
This is also a radio button: ☐

This is a reset button: [Reset]
This is a submit button: [Submit Query]

This is a one-line text input: [Text Input]

This is an image:

[Image: Webtech 01]

EXERCISE 9
EXERCISE 10

• Prepare a Web page that looks like the form at the end of the JScript2.pdf notes
• Put in all the verification JavaScript code
• Put in the code that does the partial sums
• Run it and test it.
Order Form

Name: G. Markowsky  Phone: 207-581-3940  E-mail address: markov@maine.edu

Shipping Address:
Computer Science Department
University of Maine
Orono, ME 04469-5752

Products to Order:
- Qty: 2.2  Cost: 40  ($20.00 ea) Introduction to HTML
- Qty: 3.52  Cost: 89.85  ($29.95 ea) Introduction to JavaScript

Total Cost: 129.85

Method of Payment: Credit Card
Credit Card Number: 1234567890

Send Your Order  Start Over

EXERCISE 10

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EXERCISE 11

• Figure out how to fix the second perl login program, so that any user not named in %passwords, has to use the password: "YRSHAA"

• Call your program login02x.pl

• Check your program using:
  – perl -cw login02x.pl

• Once it checks out, run it and test it
EXERCISE 12

• What do the following produce?
  – \texttt{@x = \%y}
  – \texttt{\%x = ("hello", 4,"world",5)}

• What does the following do?
  – \texttt{@x = (1,2,3); foreach (@x) { print; }}

• Write sample programs to test your answers.

• Run the sample programs to check your answers.
EXERCISE 13

• make the login program so it is case-insensitive about names
  – This would allow Alice to login as Alice, alice, or even aLiCe
• Write this program
• Test it to make sure that it works correctly
EXERCISE 14

• Explain what sorts of strings match each of the following patterns, and give 3 strings that will match and 3 that won't
  - a(. )b(. )c\2d\1
  - a(.* )b\1c
  - b(.* )c/d\1e
  - abc*
  - (abc)*
  - ^x | y

• Write a perl program that accepts strings as input and tests them against all of these patterns

• Test your example strings to see if they have the properties you expect