

**Computer Science 571 2<sup>nd</sup> Exam**  
**Prof. Horowitz**

**Thursday, December 3, 2009, 9:30am – 10:45am**

**Name:**

**Student ID Number:**

1. This is a closed book exam.
2. Please answer all questions on the test

**[20 pts] Assignment #6 Perl Questions**

Below is HTML that creates a web page containing the simple form displayed in the picture below.

```
<HTML><HEAD><TITLE>ENCODING</TITLE></HEAD>

<BODY><H1>Please enter some text</H1>

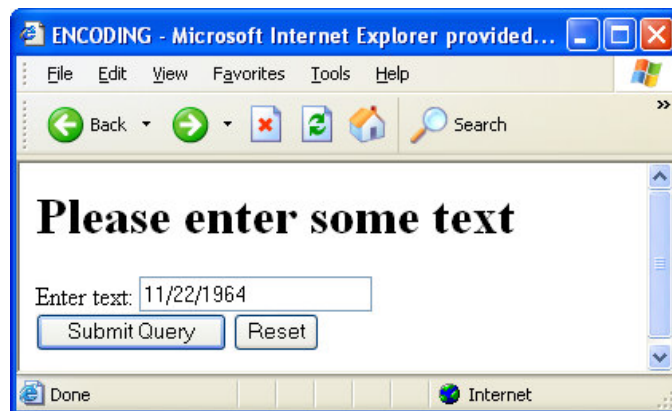
<FORM ACTION=../cgi-bin/encoding.pl  METHOD=POST>

Enter text: <INPUT NAME=input><BR>

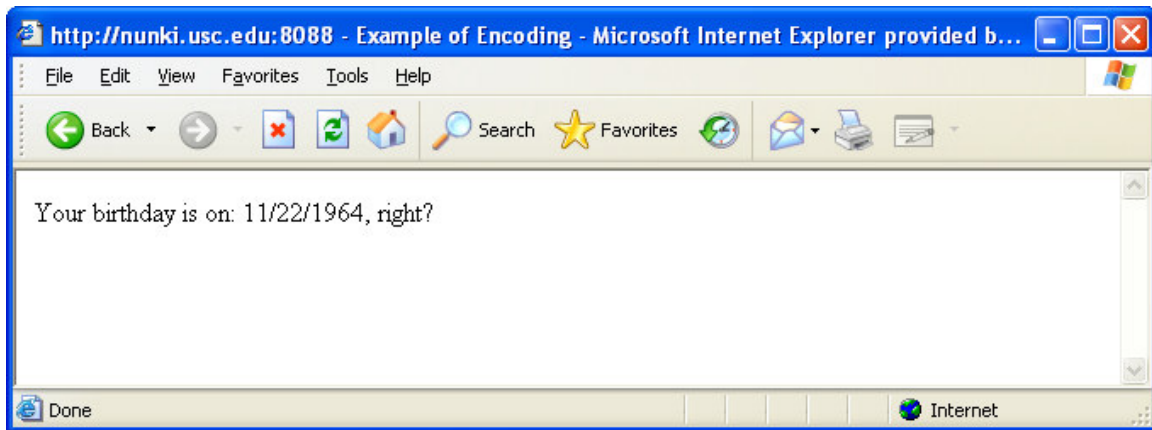
<INPUT TYPE=submit>

<INPUT TYPE=reset></form><noscript>

</BODY></HTML>
```



Your task is to write the Perl routine `encoding.pl` which “echoes” back the data entered, performing the proper “hex” translation, as displayed in the following picture:



Your CGI code should include all the proper header and HTML code to produce the output as shown above.

```
#!/usr/usc/bin/perl  
# your code goes here
```

```
exit(0);
```

## **[21 pts] Assignment #7, Tomcat Questions**

[3 pts] Define the acronym JAR and in one sentence give its definition:

[3 pts] Define the acronym WAR and in one sentence give its definition:

[3 pts] What is a major difference between Tomcat and Apache?

[3 pts] In what folder of Tomcat does one place Java servlets that are part of a user-developed application?

[3 pts] What is the name of the deployment descriptor file that must be modified to deploy a Java servlet?

[3 pts] Below are 4 possible addresses of Tomcat servers for this class, but only one is correct. Choose the correct one.

- a. <http://csci571.usc.edu:9980/index.jsp>
- b. <http://csci571.usc.edu:80/index.jsp>
- c. <http://www-scf.usc.edu/~csci571/index.jsp>
- d. <http://www-scf.usc.edu/tomcat/index.jsp>

[3 pts] What is the name of the folder where the Tomcat server is configured? And what is the name of the file that must be edited with port settings?

## **[20 pts] Assignment #8, XSLT Questions**

Below is an XML file containing the first four presidents of the United States and their vice-presidents.

```
<?xml version="1.0" encoding="UTF-8"?>
<!-- <?xml-stylesheet type="text/xsl" href="*.xslt"?> -->
<presidents>
  <president>
    <term from="1789" to="1797"/>
```

```

<name>
  <first>George</first>
  <last>Washington</last>
</name>
<party>Federalist</party>
<vicePresident>
  <name>
    <first>John</first>
    <last>Adams</last>
  </name>
</vicePresident>
</president>
<president>
  <term from="1797" to="1801"/>
  <name>
    <first>John</first>
    <last>Adams</last>
  </name>
  <party>Federalist</party>
  <vicePresident>
    <name>
      <first>Thomas</first>
      <last>Jefferson</last>
    </name>
  </vicePresident>
</president>
<president>
  <term from="1801" to="1809"/>
  <name>
    <first>Thomas</first>
    <last>Jefferson</last>
  </name>
  <party>Democratic Republican</party>
  <vicePresident>
    <name>
      <first>Aaron</first>
      <last>Burr</last>
    </name>
  </vicePresident>
  <vicePresident>
    <name>
      <first>George</first>
      <last>Clinton</last>
    </name>
  </vicePresident>
</president>
</presidents>

```

## Stylesheet Output below



The first two bullets have red text, the last bullet has blue text

Write an XSLT stylesheet that accepts the XML above and produces the output shown above as described by the rules that presidents in the Federalist party are to be displayed in red and presidents in the Democratic Republican party are to be displayed in blue.

XSL File goes here

```
<?xml version="1.0" encoding="ISO-8859-1"?>  
<xsl:stylesheet version="1.0"  
xmlns:xsl="http://www.w3.org/1999/XSL/Transform">
```

```
</xsl:stylesheet>
```

## **[39 pts] Assignment #9, Questions**

Below is a simple web page that is involved with Assignment #9.

```
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Strict//EN"
"http://www.w3.org/TR/xhtml1/DTD/xhtml1-strict.dtd">
<html xmlns="http://www.w3.org/1999/xhtml"><body>
<script
src="http://static.ak.connect.facebook.com/js/api_lib/v0.4/XdCommReceiver.js"
type="text/javascript"></script></body></html>
```

[3 pts] What is displayed in the browser?

[3 pts] What does the page accomplish?

[3 pts] What does XdCommReceiver.js do?

The initial page for Assignment #9 has 4 regions, the search button, the large photo area, the small photos area and the upload to Facebook. Using a few lines of HTML for each region, show how each region might be implemented.

[3 pts] Region 1:

[3 pts] Region 2:

[3 pts] Region 3:

[3 pts] Region 4:

In our implementation of Assignment #9, below is the code that calls the Java Servlet. The lines have been numbered for convenience. Answer the questions below.

```
1.function issueServletRequest(form)
2.{
3.    var ck_loc = /^[A-Za-z ]{3,50}$,([A-Za-z ]{3,50})$/;
4.    if (!ck_loc.test(form.location.value))
5.    {
6.        alert("Invalid location. Please select location as 'City, State'");
7.    }
8.    else
9.    {
10.        var url = "ajax_flickr?location=" +
11.        encodeURIComponent(form.location.value) + "&min_upload_date=" +
12.        unix_timestamp();
13.        //alert ("You typed: " + encodeURIComponent(form.location.value));
14.        if (typeof XMLHttpRequest != "undefined")
15.        {
16.            req = new XMLHttpRequest();
17.        }
18.        else if (window.ActiveXObject)
19.        {
20.            req = new ActiveXObject("Microsoft.XMLHTTP");
21.        }
22.        req.open("GET", url, true);
23.        req.onreadystatechange = callback1;
24.        req.setRequestHeader("Connection", "Close");
25.        req.setRequestHeader("Method", "GET" + url + "HTTP/1.1");
26.        req.send(null);
27.    }
28.}
```

[3 pts] Explain exactly what is going on in line 3.

[3 pts] Give an example of url that is sent to the Java Servlet.

[3 pts] What is the name of the java servlet?

[3 pts] Which line creates the xmlhttprequest for Firefox?

[3 pts] What condition must occur for the callback1 routine to be executed?

[3 pts] The URL that must be sent to Flickr to get the photos for a given location requires several arguments. Name three of the arguments.