```
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN"
    "http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd">

<html xmlns="http://www.w3.org/1999/xhtml" lang="en-US" xml:lang=
"en-US">
<head>
  <meta name="generator" content=
  "HTML Tidy for Linux/x86 (vers 12 April 2005), see www.w3.org" />

  <title>CS 202 RSA Math Helper</title>
</head>

<body bgcolor="#FFFFFF">
  <h1 style="text-align: center;">CS 202 RSA Math Helper<br /></h1>

  <p>&nbsp;</p>

  <p>This script will compute <i>n<sup>e</sup></i> mod <i>m</i> or
  <i>c<sup>d</sup></i> mod <i>m</i>.</p>
  <hr />

  <form method="post" enctype="multipart/form-data" action=
  "http://www.cs.virginia.edu/cgi-bin/cgiwrap/cs415/modpow">
    <table style="text-align: left;" border="0" cellpadding="2"
    cellspacing="2">
      <tbody>
        <tr>
          <td>Enter the values for:</td>

          <td><i>n</i> or <i>c</i>: <input name="norc" size="20"
          type="text" />,</td>

          <td><i>d</i> or <i>e</i>: <input name="dore" size="20"
          type="text" />,</td>

          <td><i>m</i>: <input name="m" size="20" type=
          "text" /></td>
        </tr>
      </tbody>
    </table><input name="Compute" value="Compute" type="submit" />
    <hr />

    <p>Page served at Wed Nov 2 01:07:25 EST 2005</p>
  </form>
</body>
</html>
```

```
#!/usr/bin/perl -I/home/asb/public_html/cgi-bin/perl-lib
# -*- perl -*-  -*- font-lock -*-
#
# Code copyright (c) 2005 by Aaron Bloomfield
# asb (at) cs (dot) virginia (dot) edu


use strict;
use CGI qw( :all ), "u";
use Math::BigInt;

my $query = new CGI;

&printHead;

if ( $query->param() ) {
    &calculateModPow;
    print "<hr>";
    &printForm;
}
else {
    &printForm;
}

&printTail;

#----------------------------------------------------------------------

sub calculateModPow {
    $_ = $query->param('m');
    s/[^0-9]//g;
    my $m = $_;
    $_ = $query->param('norc');
    s/[^0-9]//g;
    my $norc = $_;
    $_ = $query->param('dore');
    s/[^0-9]//g;
    my $dore = $_;

    my $base   = Math::BigInt->new($norc);
    my $exp    = Math::BigInt->new($dore);
    my $mod    = Math::BigInt->new($m);
    my $result = $base->bmodpow( $exp, $mod );

    print "<p>Result: $norc<sup>$dore</sup> mod $m = $result</p>";
}

sub printForm {
    my $action = $query->url();

    # To aid in debugging, uncomment the line below
    #    $action =~ s/cgiwrap/cgiwrapd/gi;

    # I used to use this, instead of the two lines above, but I wanted to
    # be able to change what script is called when the form is submitted.
    #
    #   print $query->start_multipart_form();

    print <<EndOfHTML;
<FORM METHOD="POST"  ENCTYPE="multipart/form-data" ACTION="$action">
<table style="text-align: left;" border="0" cellpadding="2"
 cellspacing="2">
  <tbody>
    <tr>
      <td>Enter the values for:</td>
EndOfHTML
```

```
    print "<td><i>n</i> or <i>c</i>: ",
      $query−>textfield(
        −name => ’norc’,
        −size => 20
      ),
      ",</td>";
    print "<td><i>d</i> or <i>e</i>: ",
      $query−>textfield(
        −name => ’dore’,
        −size => 20
      ),
      ",</td>";
    print "<td><i>m</i>: ",
      $query−>textfield(
        −name => ’m’,
        −size => 20
      ),
      "</td>";

    print <<EndOfHTML;
    </tr>
  </tbody>
</table>
EndOfHTML

    print $query−>submit( −name => ’Compute’ );

    #print $query−>reset;
    print p;
    print $query−>end_form;
}

sub printHead {
    print $query−>header;
    print $query−>start_html(
        −title   => ’CS 202 RSA Math Helper’,
        −BGCOLOR => "#ffffff"
    );

    print <<"EOF";
<h1 style=\"text−align: center;\">CS 202 RSA Math Helper<br></h1>
<p>&nbsp;</p>
<p>This script will compute <i>n<sup>e</sup></i> mod <i>m</i> or
<i>c<sup>d</sup></i> mod <i>m</i>.</p><hr>
EOF
}

sub printTail {
    my $date = ‘date‘;
    chop($date);
    print "<hr><p>Page served at $date</p>";
    print $query−>end_html, "\n";
}
```

```
<html>
<head>
  <meta name="generator" content=
  "HTML Tidy for Linux/x86 (vers 12 April 2005), see www.w3.org">

  <title>CS 415 AJAX Example</title>
</head>

<body>

  <!-- Script shamelessly copied from Google Groups’ web pages,
and then modified a bit -->

  <script language="javascript" type="text/javascript">
<!--

// cross-browser functions

var IE_all_cache = new Object();
function IE_getElementById(id) {
  if (IE_all_cache[id] == null) {
    IE_all_cache[id] = document.all[id];
  }
  return IE_all_cache[id];
}

if (document.all) {
  // IE < 6.0 needs this...
  document.getElementById = IE_getElementById;
  IS_IE = 1;
} else {
  IS_IE = 0;
}

//-->

</script><script language="javascript1.2" type="text/javascript">
<!--

var reqload;
var targetload;

function processReqChange() {
  // only if reqload shows "loaded"
  if (reqload.readyState == 4) {
    // only if "OK"
    if (reqload.status == 200) {
      // ...processing statements go here...
      targetload.innerHTML = reqload.responseText;
    } else {
      targetload.innerHTML = "<p>There was a problem retrieving the XML data: " +
    }
  }
}

// This next function from
// http://developer.apple.com/internet/webcontent/xmlhttpreq.html

function loadXMLDocContent(url) {
  if (window.XMLHttpRequest) {
    // branch for native XMLHttpRequest object
    try {
      reqload = new XMLHttpRequest();
    } catch (e) {
      reqload = false;
    }
  } else if (window.ActiveXObject) {
    // branch for IE/Windows ActiveX version
    reqload = new ActiveXObject("Microsoft.XMLHTTP");
  }
  if (reqload) {
    reqload.onreadystatechange = processReqChange;
    reqload.open("GET", url); // last param defaults to true
    reqload.send("");
    return reqload.responseText;
  }
  return reqload.responseText;
}

function swap_in_content (target, url) {
  target.innerHTML = "Loading...";
  targetload = target;
  //var content = loadXMLDocContent (url);
  loadXMLDocContent (url);
  //target.innerHTML = content;
}

//-->
</script>

  <h1 align="center">CS 415 AJAX Example</h1>

  <p>&nbsp;</p>

  <p>New HTML code will be inserted between the two lines</p>
  <hr>

  <table>
    <tr>
      <td id="content" name="content">...</td>
    </tr>
  </table>
  <hr>

  <p><a href="#" onclick=
  ’swap_in_content(document.getElementById("content"), "http://www.cs.virginia.ed
  load content</a></p>

  <p>&nbsp;</p>

  <p>&nbsp;</p>
</body>
</html>
```

```perl
#!/usr/bin/perl

use strict;

print "Content-Type: text/xml\n\n";
print "<b>Newly inserted text</b>\n";
```