

Below are practice problems for the final exam. Notes:

- **The exam covers all course material** – everything from lecture, lab, or the reading all semester.
- This review material is primarily for material since the 12wk exam. **Review your 6wk/12wk exams and their review material (see the calendar) for other content.**
- Remember that this is open book/notes but doesn't mean that you don't need to prepare – if you have to look many things up you may not have time to finish.
- This exam will NOT test details of C++, though you should know the basics of how a C++ program deals with CGI.
- Perl will be on the exam. You should understand basic Perl, Perl with CGI, and basic function calls / definitions.
- There will be a question on Ethics. See the last page for review questions.
- Reviewing lecture notes and the in-class exercises is highly recommended.

IT350 Web & Internet Programming
Final Exam PRACTICE
(Actual Exam: 15 Dec 2005, 1330, in SAG14)

Name _____ Alpha _____

Section: 2001 2002 6001

Note:

1. **For this exam you may use your textbook and any notes you have brought. However, you may not share any of these materials with anyone else, and you must do all work yourself.**
2. **No calculators/PDAs/computers are permitted.**
3. **To receive partial credit, show all work.**
4. **If asked for a HTML snippet/fragment, just write the relevant part – no need to provide the prelude etc.**

WORK QUICKLY AND DO THE EASY PROBLEMS FIRST!

TOTAL(?? pts) _____

Note: After completing this exam, you may not discuss it with anyone until after Friday, 16 Dec.

In a C++ CGI program, how does the program receive input from a form submission?

How is this different for GET vs. POST?

How does the C++ program return results back to the user's web browser?

CGI is one possible technique for making a web page that is responsive to the user.

- a.) Explain one other technique the used in this course for making pages responsive. What is the core difference between this technique and CGI?
- b.) Give one advantage and one disadvantage of CGI compared to the approach you gave in (a)

What is an XML DTD? Why is it useful?

How does RDF enable more flexible representation of data than XML with a DTD?

What does “chomp” do in a Perl program?

Write a **Perl function** that takes one argument (a string) and returns 1 if that string contains the word “happy” anywhere within the string, returning 0 otherwise.

Write a **Perl function** that takes one argument (an array of numbers) and returns the minimum value in that array.

Below is a legal Perl program. Show the complete output of executing this program.

```
$x = 5;
$y = 4;

$z = $x + $y * $y;

print "\n z #1 is " . $z;
print "\n z #2 is $z";
print "\n z #3 is zz";

$dog = "dog";
$cat = "cat";

if ($dog == $cat) {
    print "\n Dog, cat equals";
}
else {
    print "\n Dog, cat different";
}

if ("hotdog" =~ $dog) {
    print "\n Hot dog!";
}
```

Below is a legal Perl program. Show the complete output of executing this program.

```
sub makeArray() {
    @array1 = (89, 23, 90);
    my @array2 = (34, 5.4, 123, 2.01);
    return @array2;
}

@array1 = (23, 47);
@array2 = (900, 12, 13);
@test1 = makeArray();

print "\nNum 1 = " . $array1[0];
print "\nNum 2 = " . $array2[0];
print "\nNum 3 = " . $test1[0];
```

Other topics we covered

- XHTML basics
 - Syntax rules, validation
 - HTML vs. XHTML
 - Relative/absolute links
 - Block/inline tags
 - Proper use of images, links
- Tables
 - Headers, footers, borders, captions
 - Spanning, alignment
- Forms
 - Method: get/post, form action
 - Security issues
 - Proper use and naming of input elements
- Frames
 - Pros and cons of frames
 - How to use, rows/cols
 - ‘target’ attribute, different DTDs needed
- CSS
 - Advantages of CSS
 - Inline/embedded/external CSS
 - Selectors, types of properties, colors
 - Centering things
 - Relative vs. absolute dimensions
 - CSS validation
- Design: Common pitfalls / Goals for websites
- JavaScript
 - Outputting HTML (document.write)_vs. outputting text (dialogs)
 - Expressions, order of operations
 - Differences vs. Java
 - Strings and type conversions
 - Functions / Scope / Arrays
 - Cookies / Form validation
- DHTML
- Accessibility

Below are the questions we discussed in class regarding ethics and web privacy. You should be able to say something intelligent about each, informed by our discussion and the reading.

- How was what DoubleClick was planning to do in 2000 with their “Intelligent Targeting” program different from what had been done before? Were their plans unethical?
- If DoubleClick announced their “Intelligent Targeting” program today, would it be more accepted?
- Claim: “Collecting and matching up information about individuals benefits consumers by delivering more specific ads, for things they are more likely to want.” Do you agree? What are the privacy / societal / fairness implications?
- Google says that the only personal information it currently uses for delivering ads is the user’s location. What other info might they be able to exploit? Would it be ethical to do so?
- Some people complain that Google has a “trust me” attitude towards privacy and its power. Is this a reasonable approach? What experiences if any with Google might make us wary of this?
- Google has aims towards becoming a significant player in all kinds of advertising, including television. What are the pros and cons for society of such a move?