Final Exam Study Guide: IST 405

Programming the WWW Chapters 1, 8-13 and IIS, Apache
11 December 2008 – 10:10 a.m. to 12:10 p.m. – Room 112A

Chap 1: Internet Fundamentals
Origin of the Internet
Origin of the WWW
Origin of the browser
What is the Internet?
What is the protocol of the Internet (not *just* the acronym)
IPv4 vs. IPv6
IP Addressing
Domain names
TLDs
Internet protocols and applications
Structure of web-based applications
HTTP (meaning and structure)
URL/URI (meaning and structure)
MIME (meaning and structure)
General web server configuration and operational issues
Main features of Apache
Main feature(s) of IIS
Web application programming languages

Chap 8: Perl
Uses of Perl
Original developer
Types of variables
Types of scalars
Integer & hexadecimal literals
String literals
Variable names
Statement & comment syntax
Statement blocks
Operator precedence
Arithmetic operators
String operators
Assignment operators
Relational operators
Boolean operators
Common string functions
Standard input & output streams
If statements
Looping statements
Function declarations
Passing arguments to functions
Returning values from functions
Regular expressions & pattern matching
Write a simple Perl program

Chap 9: Using Perl for CGI
What is CGI
Executing a CGI
GET & POST methods
Reading form input
What is meant by "stateless"?
What are cookies?

Chap 11: PHP
What is PHP
Original developer of PHP
Benefits & Characteristics of PHP
Differences between PHP, Java, & C/C++
Types of variables (8)
Escaping into PHP
Including external files
String literals
Variable names
Case sensitivity
Statement & comment syntax
Statement blocks
Operator precedence
Arithmetic operators
String operators
Assignment operators
Relational operators (including the identity operator)
Boolean operators
Common string functions
Data type conversions (automatic and forced)
If statements
Looping statements
Output functions
Arrays
- Array functions
- Array indices
- Iterating through an array
Function declarations
Passing arguments to functions
Returning values from functions
Regular expressions & Pattern matching
Form handling
GET & POST methods
Reading form input
Using cookies
Sessions
Write a PHP program which will respond to an HTML form

Apache & IIS
Primary configuration options for Apache
Origin of Apache
Hardware requirements for Apache
Hardware requirements for Windows/IIS 6.0
What is the IIS Metabase?

Chap 10: Servlets and Java Server Pages
Primary proponent of JSP
What is a servlet?
Servlet advantages
Significant servlet classes
Methods for handling HTTP requests from HttpServlet
Generating output from a servlet
Cookies redux
Servlet session tracking
What is JSP?
Differences between servlets & JSP
JSP advantages
4 JSP document elements
JSTL
Including the JSTL in your JSP
JSTL EL
Using JSTL EL to accept form input

Chap 12: ASP.NET
Primary proponent of .NET
What are .NET & ASP.NET?
COM
Fundamentals of the .NET framework
.NET languages
CLR/CTS/CLS
Common types in the CTS
Common language requirements in the CLS
Attributes of C#
Primitives
C# parameter passing options
Fundamentals of the Framework Class Library
Generating output from ASP.NET
ASP.NET document elements
Required components of ASP.NET documents
Accepting form input in ASP.NET

Chap 13: Database Access through the Web
Most popular genre of databases
RDBMS table fundamentals
Field/Record/Table/Database
It's all about the 'R'
Types of 'R's
RDBMS languages
4 SQL data manipulation statements
How to connect related tables in SQL
Concerns with UPDATE & DELETE
3-tier web application architecture
Generic database access protocols/APIs
What is LAMP as it relates to web application development?
Accessing MySQL from PHP
Most popular commercial and OSF RDBMSs