Assignment #1 – Introduction/Login
Due: Tuesday, 04/10/12, 11:59pm

1. Make sure you have a Secure Shell (ssh) client on your computer. If not, download a free Secure Shell (ssh) from OSU:
   http://oregonstate.edu/net/security/ssh

   Once you download putty, the file is an .exe that can be opened without being installed. If you are using a Mac or Linux laptop, then you probably have a terminal and ssh already installed.

2. Open the ssh client and connect to **access.engr.oregonstate.edu**.

3. Complete the steps for setting up your personal PHP webspace. Be sure to follow all instructions below carefully.
   http://engr.oregonstate.edu/computing/web/39

4. (60 pts) You will be graded on having the **test.php** page installed and running correctly in your home directory.

5. Answer the following questions from your *Fundamentals of Database Systems* book:
   a. (10 pts) Review Question 1.1 on Page 27
      Define the following terms: data, database, DBMS, database catalog, program-data independence, user view, DBA, end user, persistent object, meta-data.

   b. (10 pts) Review Question 2.3-2.5 on Page 53-54
      What is the difference between a database schema and a database state? Describe the three-schema architecture, and discuss the differences between logical data independence and physical data independence?

   c. (10 pts) Exercise 2.12 on Page 54
      Think of different users for the database shown in Figure 1.2. What type of applications would each user need? To which user category would each belong and what type of interface would they need?

GRADE_REPORT

Student_number	Section_identifier	Grade
17	112	B
17	119	C
8	85	A
8	92	A
8	102	B
8	135	A

PREREQUISITE

Course_number	Prerequisite_number
CS3380	CS3320
CS3380	MATH2410
CS3320	CS1310

Figure 1.2
A database that stores student and course information.

STUDENT

Name	Student_number	Class	Major
Smith	17	1	CS
Brown	8	2	CS

COURSE

Course_name	Course_number	Credit_hours	Department
Intro to Computer Science	CS1310	4	CS
Data Structures	CS3320	4	CS
Discrete Mathematics	MATH2410	3	MATH
Database	CS3380	3	CS

SECTION

Section_identifier	Course_number	Semester	Year	Instructor
85	MATH2410	Fall	07	King
92	CS1310	Fall	07	Anderson
102	CS3320	Spring	08	Knuth
112	MATH2410	Fall	08	Chang
119	CS1310	Fall	08	Anderson
135	CS3380	Fall	08	Stone

d. (10 pts) Exercise 2.13 on Page 54
Choose a database application with which you are familiar. Design a schema and show a sample database for that application, using the notation of Figure 2.1 below. What types of additional information and constraints would you like to represent in the schema? Think of several users of your database, and design a view for each.

STUDENT

Name	Student_number	Class	Major

COURSE

Course_name	Course_number	Credit_hours	Department

PREREQUISITE

Course_number	Prerequisite_number

SECTION

Section_identifier	Course_number	Semester	Year	Instructor

GRADE_REPORT

Student_number	Section_identifier	Grade