**CS 1301 - Homework 02**

**Due before September 4, 5pm on Vista (WebCT). You may only submit your work once.**

Chapter 2 Problem:

1. **Reverse.java** – Write a program that reads in an integer (assume the number has 4 digits) and reverses the digits and multiplies the result by 3.3. For example, if the user enters: 4273 then the output should look like this:

Original Number: 4274

Reversed Number: 3724

Multiplied Reverse Number: 12289.2

Chapter 3 Problems

1. **EmpType.java** – Employees have 4 digit ID numbers. Employees with ID’s in the range 1000 to 1999 are *hourly* employees. ID’s in the range 2000 to 4999 are *monthly* employees and ID’s in the range 5000-9999 are *contract* employees. Write a program that reads an employees ID number and displays a message telling what type of employee they are. For example, if the user enters 3117, then the output should be:

Employee 3117 is a monthly employee.

1. **EmpPay.java** – *Hourly* employees make $15.35 per hour and *weekly* employees make $1000 per week. Write a program that reads the type of employee first. If the user enters a 1 then the employee is an *hourly* employee. If the user enters a 2, then the employee is a *weekly* employee. If the user enters 1, then prompt the user to enter the number of hours worked for the week. Finally, for either type of employee, display the pay for the week. For example, this is a sample dialog:

Enter the type of employee: 1

Enter the number of hours worked: 33

The total pay for the week is: $506.55

This is another sample dialog:

Enter the type of employee: 2

The total pay for the week is: $1000.00

1. **ValidTriangle.java** – Write a program that reads the length of three edges for a triangle and determines whether the input forms a valid triangle. A triangle is valid if the sum of the lengths of any two edges is greater than the length of the third edge. For instance, if your input for the three edge lengths is 1, 2, 1, the output should be:

Can edge lengths 1, 2, 1 form a triangle? false

If your input is 2, 2, 1, then the output should be:

Can edge lengths 2, 2, 1 form a triangle? true

Hint: (a) you will need nested *if* statements, (b) test your program thoroughly. For instance, if you try: 2,2,1; you should also try: 2,1,2 and 1,2,2, which should all give the same result.