CS 112 - Intro to Computer Science II - Java
Homework Exercises (5 - 10 points each)

Chapter 9 - Programming Projects Handout #1

Project 1:

1.   Modify the driver program for Programming Project 6 in Chapter 7 to use three exception classes called CylinderException, LoadException, and TowingException. The number of cylinders must be an integer from 1 to 12, the load capacity must be a number from 1 to 10 (possibly with a fractional part), and the towing capacity must be a number from 1 to 20 (possibly with a fractional part). Anything other than numbers in these ranges will cause your program to throw and catch the appropriate exception. You also need to define the classes CylinderException, LoadException, and TowingException. PrintScreen your results.

Project 2:

1.   Write a program to enter Employee data, including social security number and salary, into an array. (The maximum number of employees is 100, but your program should also work for any number of employees less than 100.) Your program should use two exception classes called **SSNLengthException** for when the social security number entered (SSN) is not exactly nine characters and **SSNCharacterException** for when any character in the social security number is not a digit. (The **SSN** is to be entered with just the numbers and no dashes or spaces.) When an exception is thrown, the user is reminded of what she or he entered, told why it is inappropriate, and asked to reenter the data. After all data has been entered, your program will output the records for all employees, with an annotation stating whether the employee's salary is above or below average. You will also need to define the classes **Employee**, **SSNLengthException**, and **SSNCharacterException**. The class Employee will be a derived class of the class **Person** available on the **K:** drive. Among other things, the class Employee should have input and output methods, as well as constructors, accessor methods, and mutator methods. Every employee object will record the employee's name, salary, and social security number (plus any other data you need or think are appropriate). PrintScreen your results.