

Lab 7: Repetition (Group A)

CS133, Beginning Programming: C#

Introduction

The objective of this lab is to introduce you to writing repetition (loop) statements C# code.

Assignment

Complete tutorials 5-1 through 5-3 in the textbook. (There are starting files in the source code that accompanies the textbook.)

Complete the following Programming Problems from the end of Chapter 5 in the textbook:

1. Distance Calculator

If you know a vehicle's speed and the amount of time it has traveled, you can calculate the distance it has traveled as follows:

$$\text{Distance} = \text{Speed} \times \text{Time}$$

For example, if a train travels 40 miles per hour for 3 hours, the distance traveled is 120 miles. Create an application with a form similar to the one shown in Figure 5-51. The user enters a vehicle's speed and the number of hours traveled into text boxes. When the user clicks the Calculate button, the application should use a loop to display in a list box the distance the vehicle has traveled for each hour of that time period. (Gaddis 335)

3. Celsius-to-Fahrenheit Table

Assuming that C is a Celsius temperature, the following formula converts the temperature to a Fahrenheit temperature (F):

$$F = 9/5 C + 32 \quad (\text{be careful – remember what happens with integer division!})$$

Create an application that displays a table of the Celsius temperatures 0–20 and their Fahrenheit equivalents. The application should use a loop to display the temperatures in a list box. (Gaddis 336)

5. Pennies for Pay

Susan is hired for a job, and her employer agrees to pay her every day. Her employer also agrees that Susan's salary is 1 penny the first day, 2 pennies the second day, 4 pennies the third day, continuing to double each day. Create an application that allows the user to enter the number of days that Susan will work and calculates the total amount of pay she will receive over that period of time. (Gaddis 336)

Gaddis, Tony. *Starting out with Visual C# 2012 (with CD-ROM)*, 3/e, 3rd Edition. Pearson, 06/2013. VitalBook file.

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Files to Submit to Moodle

- A document containing screenshots of the applications you wrote for the Programming Problems running (label each screen-shot).
- Zipped VS solution folders for each problem.
- The completed code review form for your lab work.
- A copy of the code review you gave to your code review partner.