

ASDV 2440, C# Programming MP3

1. Create project CtoF_lastName Celsius-to-Fahrenheit Table

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

$$F = 9 / 5 C + 32$$

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.

2. Create roject DiceSimulator_lastName

Dice Simulator

Create an application that simulates rolling a pair of dice. When the user clicks a button, the application should generate two random numbers, each in the range of 1 through 6, to represent the value of the dice. Use PictureBox controls to display the dice. (In the Student Sample Programs, on Canvas in the Chap05 folder, you will find six images named Die1.bmp, Die2.bmp, Die3.bmp, Die4.bmp, Die5.bmp, and Die6.bmp that you can use in the PictureBoxes.)

3. Create project RandomNumberGuessing_lastName

3. Random Number Guessing Game

Create an application that generates a random number in the range of 1 through 100 and asks the user to guess what the number is. If the user's guess is higher than the random number, the program should display "Too high, try again." If the user's guess is lower than the random number, the program should display "Too low, try again." If the user guesses the number, the application should congratulate the user and then generate a new random number so the game can start over. In addition, the game keeps count of the number of guesses that the user makes. When the user correctly guesses the random number, the program should display the number of guesses.

In your word document upload the sequence of screenshots that illustrate 1 complete game.

4. Create project Factorial_lastName

Calculating the Factorial of a Number

In mathematics, the notation $n!$ represents the factorial of the nonnegative integer n . The factorial of n is the product of all the nonnegative integers from 1 through n .

For example, $7! = 1 \times 2 \times 3 \times 4 \times 5 \times 6 \times 7 = 5,040$

Create an application that lets the user enter a nonnegative integer and then uses a loop to calculate the factorial of that number. Display the factorial in a label or a message box. If the input is nonnumeric your program SHOULD NOT CRASH but display a message "'non numeric input". If the input is negative display the message "'negative numbers are invalid.

Take screen shoot that illustrate all cases.

5. Create project RandomNumberFileWriterOne_lastName

Random Number File Writer

Create an application that writes a series of random numbers to a file. Each random number should be in the range of 1 through 100. The application should let the user specify how many random numbers the file will hold and should use a SaveFileDialog control to let the user specify the file's name and location. In your word document upload screenshots that illustrate all cases, plus a screenshot of your saved output-file in its (Windows/Mac)folder, and a screenshot of its contents.

6. Create project RandomNumberFileWriterTwo_lastName

Random Number File Reader

This exercise assumes you have completed **RandomNumberFileWriterOne_lastName**. Create another application that uses an OpenFileDialog control to let the user select the file that was created by the application that you wrote for Problem 5 above. This application should read the numbers from the file, display the numbers in a ListBox control, and then display the following data:

- The total of the numbers
- The number of random numbers read from the file

Screenshot of file contents and listbox contents.