

LabStats Internship Coding Challenge

“A Fine Crop o’ Potatoes”

2/12/2021

In this coding challenge, you will write a program to count potatoes and determine the difference between two types of potatoes. Please use C# to complete this task. Please use Visual Studio Community Edition to complete this task. When finished, zip the folder containing the .sln file and all of the contents and send the compressed file bendavidson@labstats.com.

(This exercise is based on a similar exercise from codesignal.com)

A farmer has n bags full of potatoes. Each bag is numbered sequentially, from 1 to n , with a label sewn onto the bag. Each bag contains a number of potatoes equal to the number on the label, squared.

An interesting quirk about these bags of potatoes is that bags with an odd number on the label contain russet potatoes, while bags with an even number on the label contain red potatoes.

Write a program that calculates the difference between the number of red potatoes and the number of russet potatoes, based on a random numerical value for n .

As an example, let's assign the value 6 to n . This means that bags 1, 3, and 5 contain russet potatoes, and there are 35 total russet potatoes. Bags 2, 4, and 6 contain red potatoes and there are 56 total red potatoes. The program would then find the difference between the number of red potatoes and russet potatoes ($56 - 35$), and return a single number (21).

Constraints

- n will be a number between 1 and 40 inclusive
- Keep any potato logic code OUT of the main method
- Do not include any Console method calls in the potato logic code (e.g. Console.Write())

EXTRA CREDIT?!

- Create 3 unit tests to prove that your code works, following the “How to” article in the Resources section below.

Resources

- [Visual Studio Community Edition free download](#)
- [How to create a Console Application in Visual Studio](#)
- [How to create a Unit Test project in Visual Studio](#)