Branching Logic Labs

Utilizing the Beginning Visual C# Programming book by Wrox, chapter 4, as a reference for branching logic to perform the following labs:

Branching in C# is typically handled with either an '**if statement'** or a '**switch statement'**. Each statement can perform decision making operations in your code, but have different applications.

The switch statement is best used if you have a defined "list" of options to choose from in your code. A menu of 5 choices, a dropdownlist to choose from, or in a situation where you have multiple nested if statements and can simplify your code readability through use of a switch.

The if statement is best used if you have a range of values to make decisions against or a very simple Boolean value to check for true/false condition.

1. Simulated inventory program lab
    a. **Create 5 int variables representing 5 different inventory items and assign them values equivalent to how many of each item you have in stock.** Ex. int potatoeGun = 10; for a variable with 10 units in stock (use several different values from 1 to 10 with at least one over 5)
    b. Create another int variable to act as our running total variable to track how many items have more than 5 units in stock
    c. Write an if statement to check which items have more than 5 units in stock and increment you running total variable when the condition is true.
    d. **After the if statement is complete use Console.WriteLine to output how many of your items have more than 5 in stock.** (was it correct? If not, go back and work through your logic)
    e. Change the values of your variables and retest your if statement to make sure it is correct each time you make an adjustment
    f. Challenge – re-write the variable creation so that the user of the program can input the values
2. Simulated atm menu lab
    a. **Create an atm menu** through a Console.WriteLine() . ex: (D) deposit, (W) withdrawal, (B) balance
    b. Create a string variable and assign it a value from your menu
    c. **Using a switch to switch on the variable created in step b, process the choice** and write a Console.WriteLine giving information to the user about their choice. Ex: You have deposited $200
    d. Challenge – re-write the variable creation so that the user of the program can input the choice
    e. Super Challenge – using a while loop, create behavior for the user to be able to choose to return to the original menu, make a new choice,

see the results of the new choice, and then be presented with another choice to continue or quit

3. Modulus with branching logic
    a. **Ask a user for their house/apartment number**
    b. **Write an if statement to check if their number is odd/even** and provide a different response based on that odd or even outcome
    c. **Write the same programming logic, but using a switch instead**.
4. Simulated movie ticket purchase
    a. **Ask a user for their age before they can buy a movie ticket**
    b. **Check the user's age**:
        i. If over 17 tell them they can see R rated movies
        ii. If over 13 tell them they can see PG-13 rated movies
        iii. If under 13 tell them can see G rated movies
    c. If(wroteCodeAsAnIfStatement)
    {
        Re-write as a switch
    }
    Else
    {
        Re-write as an if
    }