Lab Activity #3 - IF Statements

**Exercise #1:**

Write a program using IF, ELSE IF, and ELSE statements that will ask the user to input today’s temperature. If the temperature is above 80 degrees, display a message saying “It is very hot today!”. If the temperature is below 40 degrees, display a message saying “It is very cold today!”. If the temperature is between 40 and 80 degrees, display a message saying “It is a beautiful day outside!”.

**Exercise #2:**

Write a program for the IRS that will calculate income tax. You will need as input the person’s annual salary. Display a message that says: This year you paid $_______ dollars in tax. So your net salary after taxes are taken out is $_______. Format your output to two decimal places.

Assume that the tax brackets in the U.S. are as follows:

<table>
<thead>
<tr>
<th>Salary</th>
<th>Tax Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Under $12,000</td>
<td>6%</td>
</tr>
<tr>
<td>$12,001 – $38,000</td>
<td>27%</td>
</tr>
<tr>
<td>$38,001 – 55,000</td>
<td>33%</td>
</tr>
<tr>
<td>Over $55,000</td>
<td>39%</td>
</tr>
</tbody>
</table>

**Extra Credit:**

Modify your program to also factor in state and local taxes, and deductions.

You should assume that state and local taxes (a combined 15%) only have to be paid by individuals who earn more than $38,000.

Additionally, ask the user if they have any children or if they make any student loan payments. If they do have children, ask them how many, and calculate their new tax amount factoring in a 5% deduction per child off their pre-tax annual salary.

If they do make student loan payments, ask them how much interest they paid on the loan last year, and calculate their new tax amount by subtracting the student loan interest from their pre-tax annual salary.
**Exercise #3:**

Write a program using IF, ELSE IF, and ELSE statements that will sort three characters in ascending order (smallest to largest). Another way of saying this might be to put the characters in alphabetical order, but be careful of lowercase versus uppercase values, as well as handling special characters (those that are not letters, such as the dollar sign.) Ask the user to input three characters, then ultimately output the same three characters in the correct order.

**Exercise #4:**

Write a “Choose Your Own Adventure” program. Write a cohesive story that allows the user to make decisions as to what to do next, and display the story accordingly. An example might be “A First-time Tourist’s Adventure on the New York City Subway System”.

**Exercise #5:**

Go back to Exercise #1 of last week’s lab (Lab #2) where you created a Game Menu. Revise your game menu so that the user is given a choice between playing the “Choose Your Own Adventure” game (this lab’s Exercise #4) or the “Madlib” game (last week’s lab Exercise #5). Depending on the user’s choice, the correct game will play.