Numerical Conversion

Problem: Convert numerical currency input to a verbal representation of input.

Solution:

Interface:

Use of a web based interface to allow the user to input a number, click the 'convert' button then convert to and display the verbal representation of that number.

Process:

The application uses two c# classes to convert and return the input. The first class (NumConvert), takes the user input into the convertInput() function. The input is split into dollars and cents, then depending on the value of the number the appropriate function is called from the Lookup class. The lookup functions take the number input and returns the corresponding string and the new number to convert (i.e. the original number less what has been converted).

Once the user input has reached zero (i.e. the number has been fully converted), the convertInput() function returns a string containing the verbal representation of the users' number. This is then passed to a read only text box to be displayed on the web interface.

Approach Decision:

This approach allows for an expandable application, currently it can convert up to $10,000. However, as the functions are called based on the input number in increments of ones, tens (and separate teens), hundreds, thousands etc. it is easily modified with the addition of the next increment, in this case tens of thousands.

This approach seemed to be the best implementation as it is relatively simple yet offers the same expandability as other potential solutions. Other considered approaches involved a similar pattern, however with unnecessary complexity.

Initially when conceptualising the solution, it made use of arrays storing the values with the index representing the column (ones, tens etc.) along with the use of variables to determine the current column etc. This quickly evolved into the current solution and came together as it is now.