Assignment #3
Decoding a String

Develop the MASM Assembly source code required to solve the following problem.

Problem

Develop a MASM assembly program that makes use of **indirect addressing** and at least one **loop** to decode a hard-coded string using the following method:

1) For each character, subtract 1 from the ASCII value to create a new character.
2) Reverse the order of the characters in the string.

Once the conversion has been completed, your program must print the following to the screen:

1) Your first and last name.
2) Your R#.
3) The decoded string as solved by your program.

Example:

If the starting encodedString were set to "1643TD", the final decodedString would be "CS2350".

1) The string "1643TD" minus 1 on each ASCII value would be "0532SC".
2) The string "0532SC" reversed is "CS2350".

Assignment Guidelines

1) You may not make use of any assembly instructions or concepts we have not yet covered in class.
2) "Assignment_3.zip" is a zip archive containing the starting Visual Studio project. For those not using Visual Studio, the file "Assignment_3.asm" located within the zip archive can be used as a starting point instead.
3) Feel free to change the encodedString to another string for testing purposes – however your final submission must have the original encodedString in order to receive full credit.

Solution Layout

Your MASM assembly source code should have the following elements in this order:

1) Your name, the date, and the assignment commented along the top.
2) A comment giving a brief description of the problem.
3) A comment laying out the algorithm/pseudocode/methodology you used to solve the problem.
4) Your commented MASM source code.

What to turn in to BlackBoard

A 'zip' file named "assignment_3.zip" that contains the following:

- Your .asm source code file(s)