Computer Architecture and Organization

Project 3

Implement a function in assembly that would do the following:

- loop through a sequence of characters in a string and swap them such that the end result is the original string in reverse (50 points)
- before looping, call another assembly function/segment to extract the number of characters in the string (30 points)
- for swapping characters, call another assembly function/segment to do just that (20 points)

Submit just your .cpp/.c and .asm files. The three assembly functions should be called something appropriate like ***reverse(), getLength(), swap()***. If you choose to call different segments within the same assembly function ***"reverse()"***, then these segments should be labeled appropriately. Remember to save onto the stack all the registers before entering a new segments and then restore the saved registers at the end.

Your C++ code should initialize a C-string (null terminated) and call just the reverse function. Display the resulting strin