Wednesday March 24, 2021	**Assignment-3** **EE 309: MicroProcessors** Spring Semester 2021	Due on: March 31, 2021 Before 23:50

Q–1 Write a function in 8086 assembly (small model) which receives three arguments: a 16 bit integer n, the start address of a string s1 and the start address of another string s2. The function should copy n bytes from s1 to s2, using the string functions of 8086 using the rep prefix. The calling function will push the arguments s2, s1 and n (in this order) and then call your function. (Assume that n will not be large enough to require a compact model).

a) The stack pointer contains DF20 before the calling function pushes arguments on the stack. Describe what the stack frame will contain at what addresses till the actual copying of data begins.

b) Write the assembly code for the called function using the rep prefix and string primitives. Show how n, s1 and s2 will be referenced relative to BP in the stack frame. Your function should preserve all registers except AX and flags.

c) In this case, since the number of arguments is not variable, the called function will remove the arguments from the stack. Show how this will be done using the RET instruction and why this will not be possible in case of functions which can be called with a variable number of arguments (like printf).

Assignment Ends

Your submission should have an asm file with code and a pdf file for text answers.