1) if DS = 3499H and the offset = 3FB9H, find:
   a. the physical address
   b. the logical address of the data being fetched
   c. the lower and upper range addresses of the data segment?

2) Assume that the physical address for a location is 0046CH. Suggest a possible logical address.

3) If an instruction that needs to be fetched is in physical memory location 389F2 and CS=2700, does the code segment range include it or not? If not, what value should be assigned to CS if the IP must be = 1282?

4) Using DEBUG, assemble and unassemble the following program and provide the logical address, physical address, and the content of each instruction location. The CS value is decided by DOS, but use IP=170H. Next to each instruction indicate the BL and AL values.
   
   MOV AL,76H
   MOV BH,8FH
   ADD BH,AL
   ADD BH,7BH
   MOV BL,BH
   ADD BL,AL

5) If SS=2000 and SP=4578, find:
   a. The physical address
   b. The logical address
   c. The lower range of the stack segment
   d. The upper range of the stack segment?

6) Assume that SP=FF2EH, AX=3291H, BX=F43CH, and CX=09 find the content of the stack and the stack pointer after the execution of each of the following instructions
   a. PUSH AX
   b. PUSH BX
   c. PUSH CX

7) (4 pts) Turn in a program in 80x86 ASM to exchange the contents of two blocks A and B of sizes 256 bytes each, i.e., contents of block A will be copied into block B and contents of B will be copied into block A. The starting addresses of blocks A and B are 2400h and 7A00h, respectively. DS are the same. Try to write the most efficient code in terms of memory use and execution time. Using DEBUG, assemble and run the program and check whether the program works. Save the executable in a floppy diskette with the name ‘yourstudentnumber_1.exe’. Turn this in with your hardcopy of your homework.

Rules: Homeworks not turned in at due time and turned in the same day is subject to 30% off. Next day and later 100% off.