컴퓨터구조 Assignment-1 (Fall 2015)

> 1. 문제는 쓰지 말고 답만 쓸 것. 문제 쓰면 감점!
> 2. Hand-written only.
> 3. Later submission is not allowed for any reason.

1. $s5의 값이 A30B15F0hex 일 때, `sw $s5,80($zero)` 명령어를 수행하면 memory 몇 번 지가 얼마로 값이 변하는가?
   (1) Big-endian 일 때
   (2) Little-endian 일 때

2. 다음 각 명령어의 기계어 표현을 16진수로 나타내라.
   (1) `add $s0,$t0,$s1`
   (2) `sll $s0,$t0,3`
   (3) `lw $t1,27($t0)`
   (4) `beq $s0,$t0,AA` (이 명령어는 160_{ten} 번지에 있고 AA_{ten}는 120번지이다.)
   (5) `slti $s6,$t9,7`
   (6) `lui $s3,0x203F`

3. Assume that registers $s0 and $s1 hold the values 80050000hex and 20000000hex respectively. What is the value of $t0 for the following assembly code?

   `add  $t0,$s0,$s1`

4. In a Von Neumann architecture, groups of bits have no intrinsic meanings by themselves. What a bit pattern represents depends entirely on how it is used. X=8D024010hex is a bit pattern expressed in hexadecimal notation.
   (1) What decimal number does X represent if it is an unsigned integer?
   (2) What decimal number does X represent if it is a signed magnitude integer?
   (3) What decimal number does X represent if it is a signed one's-complement integer?
   (4) What decimal number does X represent if it is a signed two's-complement integer?
   (5) If X is placed in the code segment, what MIPS instruction will be executed? Give the corresponding assembly instruction.