Assignment 1

1) Perform -26 – 35 in 32 bits signed numbering system.

2) what does the following code computes. Assume that $ao is used for the input and initially contains n, a positive integer. Assume that $v0 is used for output.

```
begin:  addi   $t0, $zero, 0
        addi   $t1, $zero, 1
loop:   slt    $t2, $a0, $t1
        bne    $t2, $zero,
        add    $t0, $t0, $t1
        addi   $t1, $t1, 2
        j      loop
finish:  add   $v0, $t0, $zero
```

3) Write a MIPS program with comments that swaps the contents of the two consecutive memory locations with the two other consecutive locations. Example :

(2000) : 45	(3000) : 78
(2004) : 67	(3004) : 90

before execution

(2000) : 78	(3000) : 45
(2004) : 90	(3004) : 67

after execution

Use labels in your program instead of absolute addresses as below :

```
first_loc    .word 45,67
sec_loc      .word 78,90
```

To load the addresses to registers, use the pseudo instruction la (load address)

4) Convert this 32 bits signed binary number to hexadecimal.

00000001111110000010000111001111

5) Show the single MIPS instruction or minimal sequence of instructions for this C statement:

x[10] = x[11] + c;

Assume that c corresponds to register $t0 and the array x has a base address of 4,000,000.