HW 4

Background reading

- P&H: Chapter 2.6-2.7

Problem 1

Answer the following questions from P&H :

- 2.19 (2.19.1 use sll $t2, $t0, 4)
- 2.20
- 2.22
- 2.23
- 2.26
- 2.27
- 2.28
- 2.29 (use bne $t2, $0, LOOP)
- 2.30

Problem 2

$a0 is an integer argument while $a1 is a pointer to (ie: the address of) a large array. The value in $a0 can be *any* integer and the size of the array that $a1 points to is big enough (as long as you don't dereference memory before $a1, you won't be accessing memory that isn't yours) for the code to work correctly.

Add comments to the code and then briefly explain what it does. Specifically, what is in the array as the function returns?

Also, convert this MIPS code to C (you may find it easier to understand if you do this first!).

```
      addi $t1 $zero 31
      addi $t0 $zero 31
loop:srlv $t3 $a0 $t1
      andi $t3 $t3 1
      addi $t3 $t3 48
      sub $t4 $t0 $t1
      add $t2 $a1 $t4
      sb $t3 0($t2)
      beq $t1 $zero done
      addi $t1 $t1 -1
      j loop
done:sb $zero 1($t2)
      jr $ra
```