CMPUT 229 (A1) - Quiz # 1 - Fall 2013

Name: Solution

Question 1 (100 points): Explain, using only words, what the following sequence of MIPS assembly does.

```
addi    $s0, $s0, 1
sll     $s0, $s0, 31
sra     $s0, $s0, 15
srl     $s0, $s0, 8
and     $s0, $s0, $s1
srl     $s0, $s0, 8
```

There are two cases:

Case 1: If the number that was stored in `$s0` when the sequence starts was even (bit 0 of `$s0` was zero, then:

This code copies the bit field 8-23 from `$s1` into the lower 16 bits of `$s0` and makes the upper 16 bits of `$s1` zero.

Case 2: If the number that was stored in `$s0` when the sequence starts was odd (bit 1 of `$s0` was one, then:

This code makes `$s0` equal zero.