CS161 Fall 2005
Homework 1
Assigned date: 10/17/2005, Due date: 10/24/2005
Name:_____

(10 pts) Read the following MIPS code. Assume that initially $a0=3, $a1=2. $v0 is used to pass the return value of functions. Trace the execution of this code and answer the questions:

```
        addi    $t0, $t0, 1
tail:   bne     $a1, $t0, foo
        move    $v0, $a0            # Q1: if this is executed, $v0=_____(a value, not $a0)
        j       $ra
foo:
        addi    $sp, $sp, -8
        sw      $ra, 0($sp)
        sw      $a0, 4($sp)         # Q2: what do the above three lines of code do?
        addi    $a1, $a1, -1
        jal     tail                # Q3: what is in $ra after this instruction?
        lw      $a0, 4($sp)
        mult    $v0, $v0, $a0
        lw      $ra, 8($sp)
        addi    $sp, $sp, 8
        j       $ra
```

Q4: what does the above code do?

Q5: if $a0 and $a1 are initialized to 2 and 10 respectively, what is the final value in $v0?