Last Name:

First Name:

Numeric University ID:

Complete the following task and submit your work to GradeScope

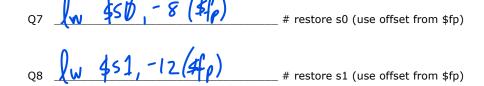
A. Make the Fibonacci function work, by filling in the instructions on the lines underlined in the following code. The instructions must achieve the work explained in the comments given on individual lines.

Write your answer directly on the PDF file (using pdf edit software) or on a physical copy after printing the PDF to avoid penalty.

fibonacci:

```
# PROLOGUE
subu $sp, $sp, 8
                     # expand stack by 8 bytes
                                          # save the frame pointer register value of the caller
addu $fp, $sp, 8
                    # set $fp to saved $ra
# BODY
beq $a0, 1, fibonacci_ret1 # if n == 1 goto ret1
beq $a0, 0, fibonacci_ret0 # if n == 0 goto ret0
# n > 1: save s0, s1 on stack before using them
                     $50 , 8 _____ # grow stack by 8 bytes (i.e., 2 ints)
            \$0, \$(\$\$) # save $s0 (in 4 bytes (out of 8 reserved) at higher address)
subu $a0, $a0, 1
                     # n-1
                     # use s0 to save n-1
move $s0, $a0
jal fibonacci
                     # v0 = fibonacci(n-1)
move $s1, $v0
                     # use s1 to save fibonacci(n-1)
```

Q6	jal	fib	oracci	# call Fibonacci (recursive call). After return, v0 will have the value of fibonacci(n-2)
ado	du \$v0,	\$v0, \$s1	# v0 = fibonaco	ci(n-2) + fibonacci(n-1)
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b fibonacci_return

fibonacci_ret1:

li \$v0, 1 # rval = 1

b fibonacci_return

fibonacci_ret0:

li \$v0, 0 # rval = 0

fibonacci_return:

EPILOGUE

Q9 WVL \$5p,\$fp # restore \$sp

Iw \$ra, (\$fp) # restore saved \$ra

Q10 **transfer transfer transfer g transfer**