

## Autograder Results

Results

Code

## Autograder Output

```
Python 3.6.9
Building testcases...
Finished building testcases

[[ WORD: 3 ]]

Attempting to assemble...
Assembling for LC-22 architecture...
Writing to submission/hanoiAuto1.bin...done!

Running tests...
[PASS] Correct return value (Your $v0 = 7, expected: 7)
[PASS] Stack pointer ends at 0xFFFF (Your $sp = 65535, expected: 65535)

[[ WORD: 7 ]]

Attempting to assemble...
Assembling for LC-22 architecture...
Writing to submission/hanoiAuto2.bin...done!

Running tests...
[PASS] Correct return value (Your $v0 = 127, expected: 127)
[PASS] Stack pointer ends at 0xFFFF (Your $sp = 65535, expected: 65535)

[[ WORD: 14 ]]

Attempting to assemble...
Assembling for LC-22 architecture...
Writing to submission/hanoiAuto3.bin...done!

Running tests...
[PASS] Correct return value (Your $v0 = 16383, expected: 16383)
[PASS] Stack pointer ends at 0xFFFF (Your $sp = 65535, expected: 65535)
```

## STUDENT

Eric Anders Gustafson

## AUTOGRADER SCORE

**40.0 / 40.0**

## QUESTION 2

## Stack Manipulation

**15.0 / 15.0 pts**

✓ - 0 pts Correct

- 10 pts Stack grows in the wrong direction (the correct direction is top of stack > lower memory)
- 10 pts Improperly allocates space on the stack (i.e. allocates 4 words for \$sp)
- 5 pts Stack pointer does not always point to valid memory (i.e. data is added, then \$sp is moved down to point to an empty space)
- 10 pts Improper use of JALR (jumping to the wrong location, incorrect arguments, etc.)

## QUESTION 3

## Register Saving

25.0 / 25.0 pts

✓ - 0 pts Correct

- 10 pts Not saving and/or restoring frame pointer, setting it up improperly, etc.
- 10 pts Not saving \$ra, or saving it as a callee
- 5 pts One or more \$s registers saved by the caller and/or one or more \$t registers saved by the callee
- 5 pts Saved registers in the wrong order per the calling convention (such as \$ra saved after \$fp)
- 25 pts Registers are never saved on the stack
- 5 pts improperly save registers

## QUESTION 4

## Short Answer

20.0 / 20.0 pts

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## Short Answer

20.0 / 20.0 pts

✓ - 0 pts Correct

- 4 pts Does not use an offset of 1 for LEA
- 4 pts Incorrect format for an instruction
- 10 pts Incorrectly loads the return address into a register (i.e. without an LEA instruction, or using a label as an operand in the LEA instruction)
- 10 pts Incorrectly unconditionally branches to some target label
- 10 pts Incorrectly loads the return address into memory instead of a register
- 10 pts Never saves the return address into a register
- 20 pts Blank/no answer