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CS 264

25 October 2016

Lab #2

.data

array: .space 80

prompt: .asciiz "Enter a number: "

return: .asciiz "\n"

sMsg: .asciiz "Smallest number: "

bMsg: .asciiz "Biggest number: "

fours: .asciiz "Number of integers disvisble by 4: "

.globl main

.text

main: li $t0, 20

la $t1, array

la $a0, prompt

loop1: li $v0,4

syscall

li $v0,5

syscall

sw $v0, ($t1)

addi $t1, $t1, 4

addi $t0, $t0, -1

bgtz $t0,loop1

li $v0, 4

la $a0, sMsg

syscall

la $a0, array

li $a1, 20

jal smallestLargest

move $a0, $v0

li $v0, 1

syscall

li $v0,4

la $a0,return

syscall

li $v0,4

la $a0,bMsg

syscall

move $a0, $v1

li $v0, 1

syscall

li $v0,4

la $a0,return

syscall

li $v0, 4

la $a0, fours

syscall

la $a0, array

li $a1, 20

jal divisble

move $a0, $v0

li $v0, 1

syscall

stop: li $v0, 10

syscall

smallestLargest:

li $v0, 2147483647

li $v1, -2147483648

little1:blez $a1, big

addi $a1, $a1, -1

lw $t0, 0($a0)

addi $a0, $a0, 4

blt $t0, $v0, little2

b little1

little2:move $v0, $t0

b little1

big: addi $a1, $a1, 20

addi $a0, $a0, -80

big1: blez $a1, retzz

addi $a1, $a1, -1

lw $t0, 0($a0)

addi $a0, $a0, 4

bgt $t0, $v1, big2

b big1

big2: move $v1, $t0

b big1

retzz: jr $ra

divisble:

li $v0,0

li $t0, 4

loop3: blez $a1, retzzz

addi $a1, $a1, -1

lw $t1, 0($a0)

addi $a0, $a0, 4

rem $t2, $t1, $t0

beqz $t2, four

b loop3

four: addi $v0, $v0, 1

b loop3

retzzz: jr $ra

Sample Output:

Enter a number: 10

Enter a number: 9

Enter a number: 8

Enter a number: 7

Enter a number: 6

Enter a number: 5

Enter a number: 4

Enter a number: 3

Enter a number: 2

Enter a number: 1

Enter a number: 0

Enter a number: -1

Enter a number: -2

Enter a number: -3

Enter a number: -4

Enter a number: -5

Enter a number: -6

Enter a number: -7

Enter a number: -8

Enter a number: -9

Smallest number: -9

Biggest number: 10

Number of integers disvisble by 4: 5