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Thread: [MIPS Sorting Problem](#)

ArmDealer - December 2, 2017, 7:30 pm

Started learning MIPS but can't seem to get the sorting to work. Anyone wanna help? I've been trying this thing for hours...

Tried so many solutions but it either loops infinitely or prints out the array in weird order.

This is suppose to get users input in floating point # then if they enter in 0.0 it exits. Gutta sort it.

Code .data

```
max:          .word 24
FPNum:        .word 0x0, 0xff800000, 0x7f800000 # Float-point numbers 0, -Infty and Infty
temp:         .word 1
num:          .space 96
input1:       .asciiz "Enter a number:\n"
output:       .asciiz "The array contains the following: \n"
```

.text

.globl main

main:

```
la $t0, FPNum
lwc1 $f10, ($t0) # $f10=0.0
lw $t1, temp # loop counter
lw $t2, max # upper bound
la $t0, num # address of array
addi $t5, $zero, 0
addi $t6, $zero, 0
```

Loop:

```
# print input prompt
la $a0, input1
li $v0, 4
syscall
```

```
# get value from the user
li $v0, 6
syscall
c.eq.s $f0, $f10
bc1t prepareSort
addi $t5, $t5, 1
# move user provided value from $f0 to array
s.s $f0, 0($t0)
```

```
# move to the next position in the array, increment loop counter
addi $t0, $t0, 4
addi $t1, $t1, 1
ble $t1, $t2, Loop
```

prepareSort:

restore loop counter, and array address for printing

lw \$t1, temp

la \$t0, num

Sort:

bgt \$t4, \$t5, prepare

addi \$t4, \$t4, 1

l.s \$f1, 0(\$t0)

l.s \$f3, 4(\$t0)

#addi \$t0, \$t0, 4

c.lt.s 1,\$f1, \$f3

bc1f swap

#addi \$t0, \$t0, 4

ble \$t4, \$t5, Sort

swap:

la \$a0, output

li \$v0, 4

syscall

s.s \$f1, 4(\$t0)

s.s \$f3, 0(\$t0)

addi \$t0, \$t0, 4

#j prepareSort

prepare:

restore loop counter, and array address for printing

lw \$t1, temp

la \$t0, num

print output prompt

la \$a0, output

li \$v0, 4

syscall

j print_loop

print_loop:

print number from the array

l.s \$f12, 0(\$t0)

li \$v0, 2

syscall

print space

la \$a0, 32

li \$v0, 11

syscall

increment loop counter and move to next value

addi \$t1, \$t1, 1

addi \$t0, \$t0, 4

ble \$t1, \$t5, print_loopI ignore some comments, I added it to help me remember certain things.