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# COSC 300

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# Fibonacci

# Write a MIPS program to find the number in the Fibonacci Sequence at a given place

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# Data Section

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# ##################################

.data

str: .asciiz "This program finds the number in the Fibonacci Sequence at a given place"

prompt: .asciiz "\n\nEnter a number: "

ans: .asciiz "\n\nThe number in the place given is: "

bye: .asciiz "\n\nHave a nice day!"

# ##################################

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# Text Section

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# ##################################

.text

.globl main

main:

# $s0 contains the number given

# $t0 contains the count

# $t1 contains the current number minus two

# $t2 contains the current number minus one

# $t3 contains the current number

la $a0, str

li $v0, 4

syscall

la $a0, prompt

li $v0, 4

syscall

li $v0, 5

syscall

move $s0, $v0

beq $s0, 1, End0

beq $s0, 2, End1

beq $s0, 3, End2

li $t0, 2

li $t1, 0

li $t2, 1

Loop:

add $t3, $t1, $t2

move $t1, $t2

move $t2, $t3

addi $t0, $t0, 1

beq $s0, $t0, End

j Loop

End0:

li $t3, 0

j End

End1:

li $t3, 1

j End

End2:

li $t3, 1

j End

End:

la $a0, ans

li $v0, 4

syscall

move $a0, $t3

li $v0, 1

syscall

la $a0, bye

li $v0, 4

syscall

li $v0, 10

syscall

