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str1: DC "Give n \n"

# Initialize stack pointer

ld x9, str1(x0)

addi sp, x0, 0 # sp initialization

addi x6, x0, 1 # const 1

ecall x0, x9, 3

ecall a0,x0,5 # gets n

addi a1, x0, 0 # a = 0 (first argument)

addi a2, x0, 1 # b = 1 (second argument)

jal x1, fib # Call fib

ebreak x0, x0, 0 # Stop

fib:

beq a0, x6, return\_b # if (n == 1) return b

beq a0, x0, return\_a # if (n == 0) return a

addi a0, a0, -1 # n = n - 1

addi t0, a1, 0 # t0 = a (current a)

addi a1, a2, 0 # a = b (current a becomes current b)

add a2, t0, a2 # b = a + b (new b becomes the sum of previous a and b)

jal x1, fib # Recursive call

ebreak x0, x0, 0

return\_a:

addi a0, a1, 0 # Move a to a0 to return

jalr x0, 0(x1) # Return

ebreak x0, x0, 0

return\_b:

addi a0, a2, 0 # Move b to a0 to return

jalr x0, 0(x1) # Return

ebreak x0, x0, 0