Text Segment

0x00400000 0x3c011001 lui $1,4097 12 la $s0, fibs # load address of array

0x00400004 0x34300000 ori $16,$1,0

0x00400008 0x3c011001 lui $1,4097 13 la $s5, size # load address of size variable

0x0040000c 0x3435004c ori $21,$1,76

0x00400010 0x00000000 nop 14 nop

0x00400014 0x00000000 nop 15 nop

0x00400018 0x00000000 nop 16 nop

0x0040001c 0x8eb50000 lw $21,0($21) 17 lw $s5, 0($s5) # load array size

0x00400020 0x24120001 addiu $18,$0,1 29 addiu $s2, $0, 1 # 1 is the known value of first and second Fib. number

0x00400024 0x00000000 nop 30 nop

0x00400028 0x00000000 nop 31 nop

0x0040002c 0x00000000 nop 32 nop

0x00400030 0xae120000 sw $18,0($16) 33 sw $s2, 0($s0) # F[0] = 1

0x00400034 0x00000000 nop 34 nop

0x00400038 0x00000000 nop 35 nop

0x0040003c 0x00000000 nop 36 nop

0x00400040 0xae120004 sw $18,4($16) 37 sw $s2, 4($s0) # F[1] = F[0] = 1

0x00400044 0x26b1fffe addiu $17,$21,-2 38 addiu $s1, $s5, -2 # Counter for loop, will execute (size-2) times

0x00400048 0x8e130000 lw $19,0($16) 42 lw $s3, 0($s0) # Get value from array F[n-2]

0x0040004c 0x8e140004 lw $20,4($16) 43 lw $s4, 4($s0) # Get value from array F[n-1]

0x00400050 0x00000000 nop 44 nop

0x00400054 0x00000000 nop 45 nop

0x00400058 0x00000000 nop 46 nop

0x0040005c 0x02749021 addu $18,$19,$20 47 addu $s2, $s3, $s4 # F[n] = F[n-1] + F[n-2]

0x00400060 0x00000000 nop 48 nop

0x00400064 0x00000000 nop 49 nop

0x00400068 0x00000000 nop 50 nop

0x0040006c 0xae120008 sw $18,8($16) 51 sw $s2, 8($s0) # Store newly computed F[n] in array

0x00400070 0x26100004 addiu $16,$16,4 52 addiu $s0, $s0, 4 # increment address to now-known Fib. number storage

0x00400074 0x2631ffff addiu $17,$17,-1 53 addiu $s1, $s1, -1 # decrement loop counter

0x00400078 0x00000000 nop 54 nop

0x0040007c 0x00000000 nop 55 nop

0x00400080 0x00000000 nop 56 nop

0x00400084 0x1620fff0 bne $17,$0,-16 57 bne $s1, $0, loop # repeat while not finished

0x00400088 0x3c011001 lui $1,4097 60 la $a0, fibs # first argument for print (array)

0x0040008c 0x34240000 ori $4,$1,0

0x00400090 0x00152821 addu $5,$0,$21 61 addu $a1, $zero, $s5 # second argument for print (size)

0x00400094 0x03e00008 jr $31 63 jr $ra

Data Segment

0x10010000 0x00000001 0x00000001 0x00000002 0x00000003 0x00000005 0x00000008 0x0000000d 0x00000015

0x10010020 0x00000022 0x00000037 0x00000059 0x00000090 0x000000e9 0x00000179 0x00000262 0x000003db

0x10010040 0x0000063d 0x00000a18 0x00001055 0x00000013 0x20776f48 0x796e616d 0x62694620 0x63616e6f

0x10010060 0x6e206963 0x65626d75 0x74207372 0x6567206f 0x6172656e 0x203f6574 0x3c203228 0x2078203d

0x10010080 0x31203d3c 0x20002939 0x65685400 0x62694620 0x63616e6f 0x6e206963 0x65626d75 0x61207372

0x100100a0 0x0a3a6572 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000 0x00000000