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#Chuong trinh: for-Fibonacci (pointer)
#---------------------------------
#Data segment
     .data
#Cac dinh nghia bien
int_f:    .space    80   #20 phan tu word
int_n:    .word     7
int_fn:   .word     13
#Cac cau nhac nhap du lieu
Nhac_n:   .asciiz   "Nhap n: "
Nhac_kq1: .asciiz   "Fibo("
Nhac_kq2: .asciiz   ") = "
Ngan:     .asciiz   "\n====================\n"
#---------------------------------
#Code segment
     .text
     .globl    main
main:
#Nhap (syscall)
#Xu ly
  #f[0]=0
     la   $a1,int_f      #fptr=addr(a[0])
     sw   $zero,0($a1)
  #f[1]=1
     addi $t0,$zero,1
     sw   $t0,4($a1)
  # t0=f[i-1]/kq, t1=n, t2=f[i-2], t3=i, a1=addr(f[i])
     addi $t1,$zero,19
  # for1
  #init1
     addi $t3,$zero,2    #i=2
     addi $a1,$a1,8      #fptr=addr(a[2x4])
  #cond1 (i<=n)->(i-n<=0)-> DK dao:(i-n>0) go end_for
cond1:
     sub  $t0,$t3,$t1    #i-n>0
     bgtz $t0,end_for1   # ket thuc for
  #body1
    # f[i]=f[i-1]+f[i-2]
     lw   $t0,-4($a1)    #f[i-1]
     lw   $t2,-8($a1)    #f[i-2]
     add  $t0,$t0,$t2
    # cat kq
     sw   $t0,0($a1)
  #loop1
     addi $t3,$t3,1      #i++
     addi $a1,$a1,4      #fptr+=4
     j    cond1
  #end_for1
end_for1:
lamlai:
  #Nhap n
     la   $a0,Nhac_n
     addi $v0,$zero,4
     syscall
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     addi $v0,$zero,5
     syscall
     sw   $v0,int_n
#Xuat ket qua (syscall)
xuat_kq:
     la   $a0,Nhac_kq1
     addi $v0,$zero,4
     syscall
     lw   $a0,int_n
     addi $v0,$zero,1
     syscall
     la   $a0,Nhac_kq2
     addi $v0,$zero,4
     syscall
     #lw  $a0,int_fn
     # xac dinh f[n] theo n
     la   $a1,int_f      #addr(f[0])
     lw   $t0,int_n      #n
     addi $t1,$zero,4    #n*4
     mul  $t0,$t0,$t1
     add  $a1,$a1,$t0    #addr(f[n])
     lw   $a0,0($a1)
     addi $v0,$zero,1
     syscall
# lam lai
     la   $a0,Ngan
     addi $v0,$zero,4
     syscall
     j    lamlai
#ket thuc chuong trinh (syscall)
Kthuc:    addi $v0,$zero,10
     syscall
#--------------------------------
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