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#Chương trình: ham khong la
# Ham range, max_day, min_day
#-----
        .include "macro.mac"
#Data segment
        .data
#Cac dinh nghia bien
int_a:    .word    24,79,13,80,46
          .word    35,68,12,91,57
int_n:    .word    10
int_max:  .word    13
int_min:  .word    14
int_ran:  .word    15
#Cac cau nhac nhap du lieu
xuat_max: .asciiiz  "max  = "
xuat_min: .asciiiz  "min  = "
xuat_ran: .asciiiz  "range = "
#-----
#Code segment
        .text
#-----
#Chương trình chính
#-----
main:
#Nhap (syscall)
#Xu ly
    # goi ham range
        la      $a0,int_a
        lw      $a1,int_n
        jal     range
        sw      $v0,int_ran
#Xuat ket qua (syscall)
    # xuat max
        puti_p   xuat_max,int_max
        linefeed
        puti_p   xuat_min,int_min
        linefeed
        puti_p   xuat_ran,int_ran
#ket thuc chuong trinh (syscall)
Kthuc:   addi     $v0,$zero,10
        syscall
#-----
# Ham range: tinh range=max-min
# I: $a0=addr(a[]), $a1=so phan tu
# O: $v0=range
# Reserved: $ra
#-----
range:
        subi     $sp,$sp,4
        sw      $ra,0($sp)
#-----
        jal     maxday
        sw      $v0,int_max
        jal     minday
        #luu $ra vao stack

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        sw          $v0,int_min
        lw          $s0,int_max
        sub         $v0,$s0,$v0
#-----
        lw          $ra,0($sp)          #lay $ra tu stack
        addi        $sp,$sp,4
        jr          $ra
#-----
# Ham maxday: tim PTLN cua day
# I: $a0=addr(a[]), $a1=so phan tu
# O: $v0=PTLN
# Reserved: none
#-----
maxday:
    #a2=addr(a[i]),s0=max(=a[0]),s1=a[i],s2=i(=1),s3=a[i]-max
    #for1(max=a[0],i=1;i<spt;i++)
        add         $a2,$a0,$zero
        lw          $s0,0($a2)
        addi        $s2,$zero,1
        addi        $a2,$a2,4
fcond1:    beq       $s2,$a1,endfor1
    #if1 (a[i]-max>0)
        lw          $s1,0($a0)
        sub         $s3,$s1,$s0
        blez        $s3,endif1         # dao dk, bo qua then
    #then1: max=a[i]
        add         $s0,$s1,$zero
    #endif1
endif1:
    #floop1
        addi        $s2,$s2,1
        addi        $a0,$a0,4
        j           fcond1
    #endfor1
endfor1:
        add         $v0,$s0,$zero      # tri tra ve
        jr          $ra
#-----
# Ham minday: tim PTNN cua day
# I: $a0=addr(a[]), $a1=so phan tu
# O: $v0=PTNN
# Reserved: none
#-----
minday:
    #a2=addr(a[i]),s0=min(=a[0]),s1=a[i],s2=i(=1),s3=a[i]-min
    #for1(min=a[0],i=1;i<spt;i++)
        add         $a2,$a0,$zero
        lw          $s0,0($a2)
        addi        $s2,$zero,1
        addi        $a2,$a2,4
fcond2:    beq       $s2,$a1,endfor2
    #if2 (a[i]-min<0)
        lw          $s1,0($a0)
        sub         $s3,$s1,$s0

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        bgez      $s3,endif2      # dao dk, bo qua then
    #then2: min=a[i]
        add       $s0,$s1,$zero
    #endif2
endif2:
    #floop2
        addi      $s2,$s2,1
        addi      $a0,$a0,4
        j         fcond2
    #endfor2
endifor2:
        add       $v0,$s0,$zero   # tri tra ve
        jr        $ra
#-----

```