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#Chương trình: while-tim ky tu trong chuoi
#-----
#Data segment
    .data
#Cac dinh nghia bien
str_s:      .asciiz    "Computer Architecture CSE-HCMUT."
kytu:       .byte      'u'
int_vtri:   .word      13
#Cac cau nhac nhap du lieu
Nhac_c:     .asciiz    "Nhap ky tu: "
Nhac_tt1:   .asciiz    "Vi tri ky tu '"
Nhac_tt2:   .asciiz    "'" trong chuoi la "
Nhac_kt1:   .asciiz    "Khong tim thay ky tu '"
Nhac_kt2:   .asciiz    "'" trong chuoi."
Ngan:       .asciiz    "\n=====\\n"
#-----
#Code segment
    .text
    .globl    main
#-----
# Chương trình chính
#-----
main:
#Nhap (syscall)
    # Nhap ky tu
    la    $a0,Nhac_c
    addi  $v0,$zero,4
    syscall
    addi  $v0,$zero,12
    syscall
    sb    $v0,kytu
    # xuong dong
    addi  $a0,$zero,'\n'
    addi  $v0,$zero,11
    syscall
#Xu ly
    # t0=s[i]/kq, t1=kytu, t3=i(=0), a1=sptr(=addr(s[0]))
    add   $t3,$zero,$zero
    la    $a1,str_s
    lb    $t1,kytu
    #while1 ( s[i]!=kytu && s[i]!='\0')
while1:
    lb    $t0,0($a1)    #s[i]
    # DK1: s[i]==kytu
    beq   $t0,$t1,end_wh1
    # DK2: s[i]=='\0'
    beq   $t0,$zero,end_wh1
    #body1
    addi  $t3,$t3,1      # i++
    addi  $a1,$a1,1      # sptr++
    j     while1
    #end_wh1
end_wh1:
    #if1 (s[i]==0) go khong tim thay

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        beq $t0,$zero,xuat_kt
        addi $t3,$t3,1
        sw $t3,int_vtri
#Xuat ket qua (syscall)
xuat_tt:
        la $a0,Nhac_tt1
        addi $v0,$zero,4
        syscall
        lb $a0,kytu
        addi $v0,$zero,11
        syscall
        la $a0,Nhac_tt2
        addi $v0,$zero,4
        syscall
        lw $a0,int_vtri
        addi $v0,$zero,1
        syscall
        j lamlai # bo qua else
xuat_kt:
        la $a0,Nhac_kt1
        addi $v0,$zero,4
        syscall
        lb $a0,kytu
        addi $v0,$zero,11
        syscall
        la $a0,Nhac_kt2
        addi $v0,$zero,4
        syscall
lamlai:
        la $a0,Ngan
        addi $v0,$zero,4
        syscall
        j main
#ket thuc chuong trinh (syscall)
Kthuc: addi $v0,$zero,10
        syscall
#-----

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