```
#Chuong trinh: Dao chuoi
#-----------------------------
            .include   "macro.mac"
#Data segment
            .data
#Cac dinh nghia bien
str_s:      .asciiz    "Dai hoc Bach Khoa TP.HCM"
int_n:      .word      0
#Cac cau nhac nhap du lieu
xuat_bd:    .asciiz    "Chuoi ban dau:\n\t\t"
xuat_dd:    .asciiz    "\nChuoi da dao:\n\t\t"
#Code segment
            .text
#-----------------------------
# Chuong trinh chinh main
#-----------------------------
main:
#Nhap (syscall)
            puts_p     xuat_bd,str_s
#Xu ly
  # goi ham lay chieu dai chuoi
            la         $a0,str_s
            jal        strlen
            sw         $v0,int_n
  # goi ham Reverse
            la         $a0,str_s
            lw         $a1,int_n
            jal        reverse
#Xuat ket qua (syscall)
            puts_p     xuat_dd,str_s
#ket thuc chuong trinh (syscall)
Kthuc:      addi       $v0,$zero,10
            syscall
#----------------------------------
# Ham reverse: dao thu tu cac ky tu trong chuoi
# I: a0=addr(s[]), a1=chieu dai chuoi
# O: none
# Reserved: none
#----------------------------------
reverse:
  # a0=addr(s[i]), a2=addr(s[n-1-i]), a1=n/2
            add        $a2,$a0,$a1
            subi       $a2,$a2,1       # a2 = a0 + (n-1)
            srl        $a1,$a1,1       # a1 = n/2
  # s0=s[i], s2=s[n-1-i], s1=i(=0)
  #for1 - init1
            add        $s1,$zero,$zero     # i=0
  #cond1
cond1:      beq        $s1,$a1,end_for1    # i=n/2-> ket thuc
  #body1
            lb         $s0,0($a0)
            lb         $s2,0($a2)
            sb         $s0,0($a2)      # doi cho ky tu
            sb         $s2,0($a0)
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    #loop1
            addi        $s1,$s1,1       #i++
            addi        $a0,$a0,1       #bptr++
            subi        $a2,$a2,1       #eptr--
            j           cond1
    #end_for1
end_for1:
            jr          $ra
#---------------------------------
# Ham strlen: lay chieu dai chuoi
# I: a0=addr(s[])
# O: v0=chieu dai chuoi
# Reserved: none
#---------------------------------
strlen:
    # a0=addr(s[]), s0=s[i], s1=i(=0)
            addi        $s1,$zero,0
    #while (s[i]!='\0')
wcond:
            lb          $s0,0($a0)
            beq         $s0,$zero,endwh
    #wbody
            addi        $s1,$s1,1
            addi        $a0,$a0,1
            j           wcond
    #endwh
endwh:
            add         $v0,$s1,$zero   # tri tra ve
            jr          $ra
#-----------------------------
```