

DLX汇编例程

Subtitle

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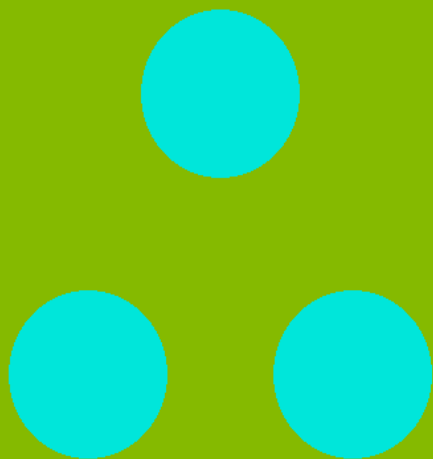


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DLX汇编例程

例程一

```

;add3.s
; Program begin at symbol main
; requires module INPUT
; Load two programs (add3.s and input.s)
; Note: load add.s first then follow by inputs.
; Execute, press (F5)
; read 1 numbers from stdin and add 3 upon it (integer)
; the result is written to stdout
;-----

.data
Prompt: .asciiz      "\nEnter the number(> 1): "
.align   2
StrPtr: .space       4
PrintFt: .asciiz     "Your number %d+3 = %d"
.align   2
PrintPar: .word       PrintFt
Yournumb: .space     4
PrintSum: .space     4
.text
.global main
main:
    addi    r1,r0,Prompt ;put prompt in arg r1
    jal     InputUnsigned ;call subroutine
    sw      Yournumb,r1 ;store your number
    addi    r2,r1,3 ;add 3 to your number
    sw      PrintSum,r2 ;store sum
    addi    r14,r0,PrintPar ;prepare to print
    trap    5 ;print to standard output
;*****end*****
    trap    0

```

例程二

```

;
;
; getchar.s
;
; R1 = getchar();
.data
ReadBuf: .space      8
ReadPar: .word        0,ReadBuf,4
SaveR14: .space      4
SaveR15: .space      4
.text
.global getchar

```

```

getchar:
    sw    SaveR14, r14    ;save register r14
    sw    SaveR14, r15    ;save register r15
    addi   r14, r0, ReadPar
    trap   3
    addi   r15, r0, ReadBuf
    lbu    r1, 0(r15)
    lw     r14, SaveR14
    lw     r15, SaveR15
    jr     r31            ;return

```

例程三

```

;
; ascii.s
;-----
; Program begin at symbol main
; requires module getchar
; print the character ascii code
;-----

.data
Hello:    .asciiz      "\n\nEnter any char(hit return after that,
q to quit): "
.align    2
StrPtr:   .space       4
PrintFt:  .asciiz      "\nThis char = %c and its ascii value =
%d"
.align    2
PrintPar: .word        PrintFt
PrintChar: .space      4
PrintVal: .space       4
.text
.global main
main:
    addi   r2, r0, Hello
    sw     StrPtr, r2
    addi   r14, r0, StrPtr
    trap   5
    jal    getchar
    seqi   r3, r1, 113
    sw     PrintChar(R0), R1
    sw     PrintVal(R0), R1
    addi   r14, r0, PrintPar
    trap   5
    beqz   r3, main
;*** end
    trap   0

```

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