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#CECS 225
#Homework 4 MIPS Conditional Operations
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#Exercise 1: if/else logic
addi $6, $0, 0x30               #$6 = 0x30
slt $7, $4, $6                  #Is $4 < $6?
beq $7, $0, not_less            #If $4 < $6, do:
        addi $1, $0, 0x3000     #$1 = 0x3000
        addi $2, $0, 0x6000     #$2 = 0x6000
not_less:                       #else
        beq $4, $3, equal       #if $4 == $3 do:
        addi $3, $4, $0         #$3 = $4
equal:                          #else
        sub $5, $4, $3          #$5 = $4 - $3

#Exercise 2 : while loop exercise
addi $3, $0, 4                      #$3 = 4
startWhileLoop:                     #Start loop
        beq $4, $3, endWhileLoop    #if ($3 = 4), end loop
        add $4, $4, $2              #else, $4= $4+ $2
        j start_loop                #restart loop
endWhileLoop:                       #end loop

#Exercise 3 : for loop exercise
addi $1, $0, 10                 # $1 = 10
addi $20, $0, 20                # $20 = 20
startForLoop:                   # Start Loop
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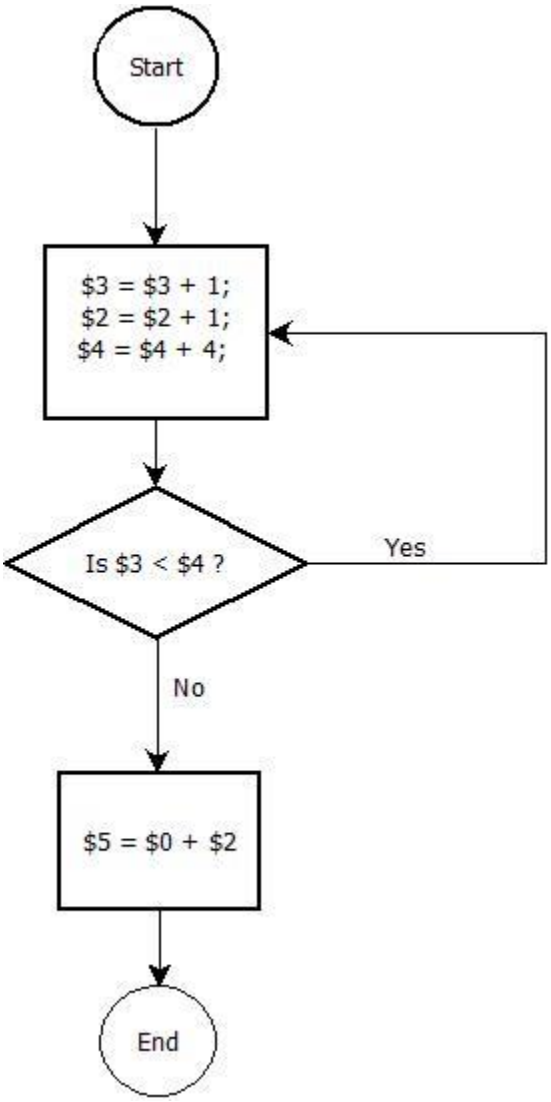
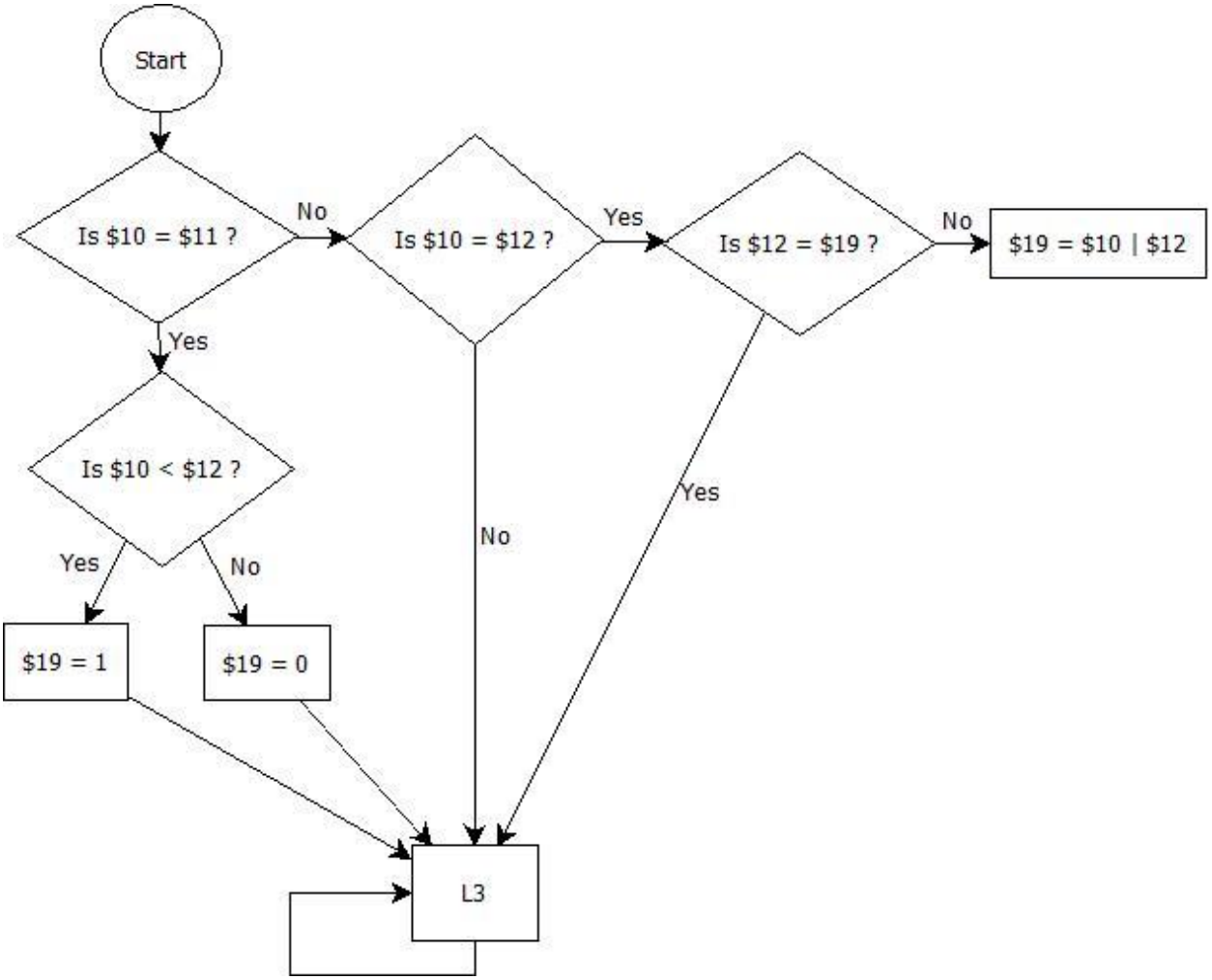
        slt $2, $1, $20          # Is $2 < $1?
        beq $2, $0, endForLoop # if $2 >= $1, end loop
        add $1, $1, 1            # else $1++
        sub $20, $20, 1          # $20--
        j startForLoop
endForLoop:                      # end loop
```

Exercise 4:



Exercise 5:


Start
Is $10 = $11 ?
No
Is $10 = $12 ?
Yes
Is $12 = $19 ?
No
$19 = $10 | $12
Yes
Is $10 < $12 ?
Yes
No
$19 = 1
$19 = 0
No
Yes
L3