Lab 9 (50 points)

Q1 (10 points) Write assembly code to

1. Jump to a label if an integer is even.

mov eax, (integer)

test al, 1

jz label

mov eax, (integer)

test al, 1

jnz endif

label:

endif:

1. Jump to label L1 if unsigned EAX is less than or equal to Val1

cmp eax, Val1

jbe L1

cmp eax, Val1

ja endif

L1:

endif:

Q2 (10 points) Write a code to compare unsigned EAX to EBX, and copy the larger of the two into a variable named Large

cmp eax, ebx for i in eax if eax < ebx large = ebx else large = eax

ja L1

mov [Large], ebx

jmp endif

L1: mov [Large], eax

endif: next instruction

Q3 (15): Write the assembly code for the following c-like code

if (eax < ebx)

{

X = -1;

}

else

{

X = 1;

}

cmp eax, ebx

jge L1 ;condition is false

mov x, -1 ;condition is true

jmp L2 ;end if else

L1: mov x, 1

L2:

Q4 (15): Write the assembly code for the following c-like code

sum = 0

for (i = 10; i > 3 ; i--)

sum = sum + i

mov eax, 0 ;sum value in eax

mov ecx, 0 ; value of I in ecx

loop\_start:

cmp ecx, 3 ;compare ecx and 3

jnae loop\_end ;if ecx less than or equal to 3 go to loop\_end

add eax, ecx ;else sum = sum + 1

inc ecx ;counter i++

jmp loop\_start ;start over

loop\_end: