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Course: ENPM696

Task: Assignment 2

1. Subtract 64 from the variable

MOV EAX, [Var]

MOV ECX, -64

LEA EAX, [EAX+ECX]

MOV [Var], EAX

1. Multiply a variable by 40

MOV EAX, [Var]

LEA EAX, [EAX\*32+EAX\*8]

MOV [Var], EAX

1. Multiply a variable by 11

MOV EAX, [Var]

MOV EBX,EAX

LEA EAX, [EAX\*8+EAX\*2]

ADD EAX,EBX

MOV [Var], EAX

1. Multiply a variable by 22

MOV EAX, [Var]

SHL EAX,4

LEA EBX, [Var\*4]

ADD EAX, EBX

LEA EBX, [Var\*2]

ADD EAX,EBX

MOV [Var], EAX

1. Multiply a variable by 1000

MOV EAX, [Var]

LEA EAX, [EAX\*4+EAX]

LEA EAX, [EAX\*4+EAX]

LEA EAX, [EAX\*4+EAX]

SHL EAX,3

MOV [Var], EAX

1. Assembly code

MOV ECX, 1

Inside\_while:

CMP ECX, 7

JE Outside\_if

SHL ECX, 1

Outside\_if:

INC ECX

CMP ECX, 10

JL Inside\_while

1. Assembly code

MOV EAX,5

MOV ECX,0

For-Loop:

CMP ECX,25

JGE End

If1:

CMP ECX, 3

JLE Short-circuit1

CMP EAX,23

JLE Short-circuit1

If2:

CMP ECX, 30

JG Short-circuit2

CMP EAX,35

JG Short-circuit2

MOV EBX, ECX

AND EBX, 1

CMP EBX, 0

JNE Short-circuit2

JMP End

Short-circuit2:

INC ECX

Short-circuit1:

LEA EAX, DWORD PTR[EAX+ECX\*2]

ADD ECX,2

JMP For\_loop

End:

Outside of the for loop

1. Assembly code

PUSH EBP

MOV EBP, ESP

SUB ESP,16

MOV [EBP-4],10

PUSH [EBP-4]

CALL functionOne

ADD ESP,4

MOV [EBP-8],EAX

PUSH [EBP-8]

PUSH [EBP-4]

CALL functionTwo

ADD ESP,8

MOV [EBP-12],EAX

ADD EAX,[EBP-8]

ADD EAX, [EBP+8]

MOV [EBP-16],EAX

MOV ESP, EBP

POP EBP

RET

1. C program

while(var1<18){

if((var2<=39 && var3>25) || (var2>16 && var3<=22)){

/\* Code Block \*/

}

var3\*=6;

var2+=2;

var1++;

}