ECEN 350 ARM Lab 4

Question 1:

ADD SP, SP, 16

Must be added before the last branch. ﻿﻿﻿﻿﻿Pop operations must match with push operations.

Question 2:

.globl lab04b

lab04b:

SUB SP, SP, 16 //make room for X19 on the stack

STUR X19, [SP, 0] //push X19

SUB X11, X0, 1 //store 1 into x11

SUB X19, X0, 1

ADD X9 , XZR , XZR //set X9 to 0

loop:

CBNZ X11, mult\_loop //Compare if X11 is not 0

B exit

mult\_loop:

CBZ X19, mult\_eol //Compare if X19 is zero

ADD X9, X9, X0

SUB X19, X19, 1 //Decrement 1

B mult\_loop

mult\_eol:

ADD X0, X9, XZR

ADD X9, XZR, XZR

SUB X19, X11, 1 //Decrement 1

SUB X11, X11, 1 //Decrement 1

B loop

exit:

LDUR X19, [SP,0]

ADD SP, SP, 16 //Pop operation

BR X30

Question 3:

Yes, because of the way multiplication is done in assembly. The second argument in the main file will decide how many loops it will take to complete.﻿﻿﻿﻿﻿﻿﻿﻿﻿﻿

Thus, my\_mul(3,5) will take longer than my\_mul(5,3).