Laboratory 2
Assembly Language Programming and Debugging

Code Line #	Extended Assembly	Indexed with offset		PC	N	Z	V	C
		Assembly	Machine code					
1	LDAA $3000	LDX #$3000	CE 30 00	4103	0	0	0	0
2		LDAA 0,X	A6 00	4105	1	0	0	0
3	LDAB $3001	LDAB 1,X	E6 01	4107	1	0	0	0
4	ABA	ABA	18 06	4109	0	0	1	1
5	STAA $3002	STAA 2,X	6A 02	410B	0	0	0	1
6	LDAA $3003	LDAA 3,X	A6 03	410D	0	0	0	1
7	LDAB $3004	LDAB 4,X	E6 04	410F	1	0	0	1
Y8	SBA	SBA	18 16	4111	0	0	0	1
9	STAA $3005	STAA 5,X	6A 05	4113	0	0	0	1
endmain: BRA endmain			20 FE					

Figure 5 : Program Code.

Q1: Do the following addition and subtraction by hand:

a) $9C + $B5 **Overflow** (if unsigned num.): Yes No
Overflow (if signed num.): Yes No

b) $3E - $F7 **Overflow** (if unsigned num.): Yes No
Overflow (if signed num.): Yes No

Code Line #	Extended Assembly	Using Labels		PC	N	Z	V	C
		Assembly	Machine Code					
1	**LDAA** $3000	**LDAA** operandA	B6 30 00	4103	1	0	0	0
2	**LDAB** $3001	LDAB operandB	F6 30 01	4106	1	0	0	0
3	**ABA**	**ABA**	18 06	4108	0	0	1	1
4	**STAA** $3002	STAA Result1	7A 30 02	410B	0	0	0	1
5	**LDAA** $3003	LDAA operandC	B6 30 03	410E	0	0	0	1
6	**LDAB** $3004	LDAB operandD	F6 30 04	4111	1	0	0	1
7	**SBA**	**SBA**	18 06	4113	0	0	0	1
8	**ST**AA $3005	STAA Result2	7A 30 05	4116	0	0	0	1
endmain: BRA endmain			20 FE					

Figure 10 - Program Code.