

Q1: Do the following addition and subtraction by hand:

$$\text{\$76} + \text{\$3A}$$

$$= \text{\$B0}$$

If these numbers are unsigned numbers, **overflow:** yes no

If these numbers are signed numbers, **overflow:** yes no

$$\text{\$A3} - \text{\$6C}$$

$$= \text{\$37}$$

If these numbers are unsigned numbers, **overflow:** yes no

If these numbers are signed numbers, **overflow:** yes no

Q2: Do your results calculated by hand in Q1 match the simulation results? Yes No

Q3: Do the following addition and subtraction by hand:

$$\text{\$F3} + \text{\$C9}$$

$$= \text{\$BC}$$

If these numbers are unsigned numbers, **overflow:** yes no

If these numbers are signed numbers, **overflow:** yes no

$$\text{\$4B} - \text{\$8D}$$

$$= \text{\$BE}$$

If these numbers are unsigned numbers, **overflow:** yes no

If these numbers are signed numbers, **overflow:** yes no

Q4: Do your results calculated by hand in Q3 match the simulation results with the new data?

Yes No

Using **F11** key, execute the instructions one at a time and fill the values of **N, Z, V, and C bits** in **Condition Coder Register (CCR)**.

Code Line	Memory Address	Machine Codes	Assembly Code	N	Z	V	C
1:	\$4100	B6	LDAA 3000h	1	0	0	1
	\$4101	30					
	\$4102	00					
2:	\$4103	F6	LDAB 3001h	1	0	0	1
	\$4104	30					
	\$4105	01					
3:	\$4106	18	ABA	1	0	0	1
	\$4107	06					
4:	\$4108	7A	STAA 3002h	1	0	0	1
	\$4109	30					
	\$410A	02					
5:	\$410B	B6	LDAA 3003h	0	0	0	1
	\$410C	30					
	\$410D	03					
6:	\$410E	F6	LDAB 3004h	1	0	0	1
	\$410F	30					
	\$4110	04					
7:	\$4111	18	SBA	1	0	1	1
	\$4112	16					
	\$4113	7A	STAA 3005h	1	0	0	1
	\$4114	30					
	\$4115	05					
6:	\$4116	20	BRA endmain	1	0	0	1
	\$4117	FE					

Figure 9.