

1.1)

; Exchange loactions NUM1 and NUM2 (1 byte positive integers)

;

```

        ORG    $0000; START DATA AT 0000
NUM1 FCB    $99;   RESERVE STORAGE FOR THE FIRST NUMBBER
NUM2 FCB    $A0;   RESERVE STORAGE FOR THE SECOND NUMBER
        ORG    $E000; CONTINUE WITH PROGRAM AT E000
        LDAA   NUM1; LOAD THE FIRST NUMBER
        LDAB   NUM2; LOAD THE SECOND NUMBER
        STAA   NUM2; STORE THE FIRST NUMBER
        STAB   NUM1; STORE SECOND NUMBER
        NOP;           PROGRAM ENDS

```

1.2)

AS11M 01.05 Wed Mar 17, 2021 22:21 **swap.lst**

```

0001          ; Exchange loactions NUM1 and NUM2 (1 byte positive integers)
0002          ;
0003
0004 0000      ORG    $0000; START DATA AT 0000
0005 0000 99      NUM1 FCB    $99;   RESERVE STORAGE FOR THE FIRST NUMBBER
0006 0001 a0      NUM2 FCB    $A0;   RESERVE STORAGE FOR THE SECOND NUMBER
0007 e000      ORG    $E000; CONTINUE WITH PROGRAM AT E000
0008 e000 96 00      LDAA   NUM1; LOAD THE FIRST NUMBER
0009 e002 d6 01      LDAB   NUM2; LOAD THE SECOND NUMBER
0010 e004 97 01      STAA   NUM2; STORE THE FIRST NUMBER
0011 e006 d7 00      STAB   NUM1; STORE SECOND NUMBER
0012 e008 01      NOP;           PROGRAM ENDS

```

Number of errors 0

Number of warnings 0

### Swap.s19

S105000099A0C1

S10CE0009600D6019701D7000136

S9030000FC

2.1)

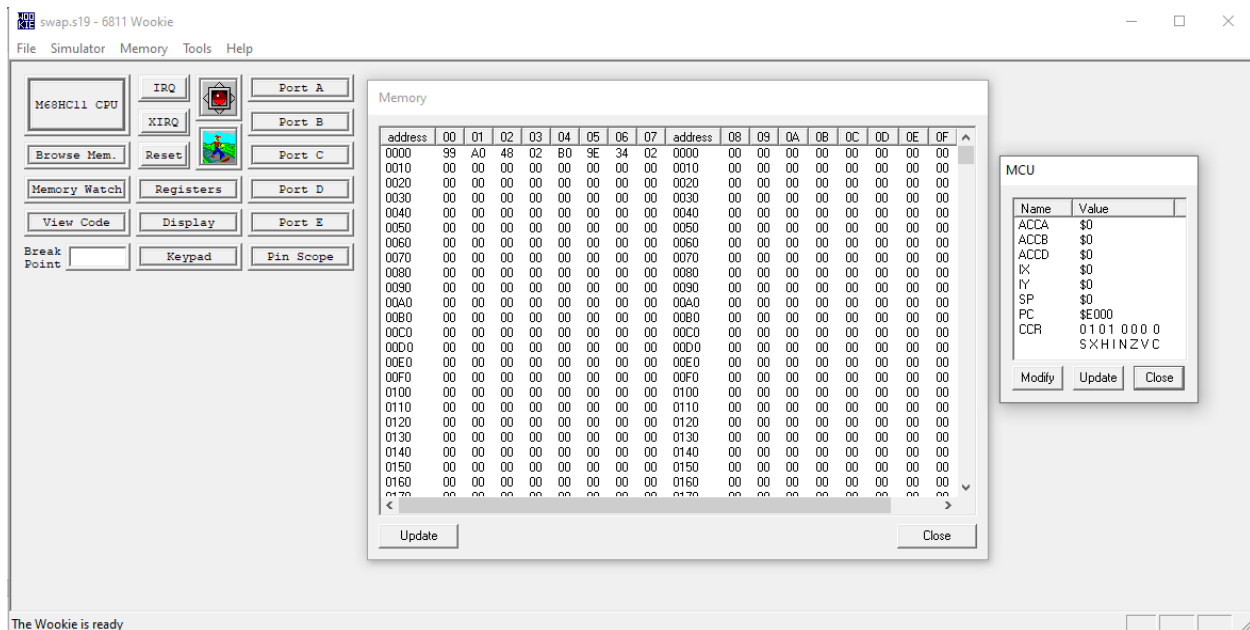
#### Memory

| address | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | address | 08 | 09 | 0A | 0B | 0C | 0D | 0E | 0F | ^ |
|---------|----|----|----|----|----|----|----|----|---------|----|----|----|----|----|----|----|----|---|
| DFB0    | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | DFB0    | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 |   |
| DFC0    | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | DFC0    | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 |   |
| DFD0    | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | DFD0    | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 |   |
| DFF0    | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | DFF0    | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 |   |
| E000    | 96 | 00 | D6 | 01 | 97 | 01 | D7 | 00 | E000    | 01 | 00 | 00 | 00 | 00 | 00 | 00 | 00 |   |
| E010    | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | E010    | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 |   |
| E020    | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | E020    | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 |   |
| E030    | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | E030    | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 |   |
| E040    | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | E040    | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 |   |
| E050    | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | E050    | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 |   |
| E060    | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | E060    | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 |   |
| E070    | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | E070    | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 |   |
| E080    | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | E080    | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 |   |
| E090    | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | E090    | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 |   |
| E0A0    | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | E0A0    | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 |   |
| E0B0    | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | E0B0    | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 |   |
| E0C0    | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | E0C0    | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 |   |
| E0D0    | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | E0D0    | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 |   |
| E0E0    | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | E0E0    | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 |   |
| E0F0    | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | E0F0    | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 |   |
| E100    | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | E100    | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 |   |
| E110    | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | E110    | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 |   |
| E120    | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | E120    | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 |   |

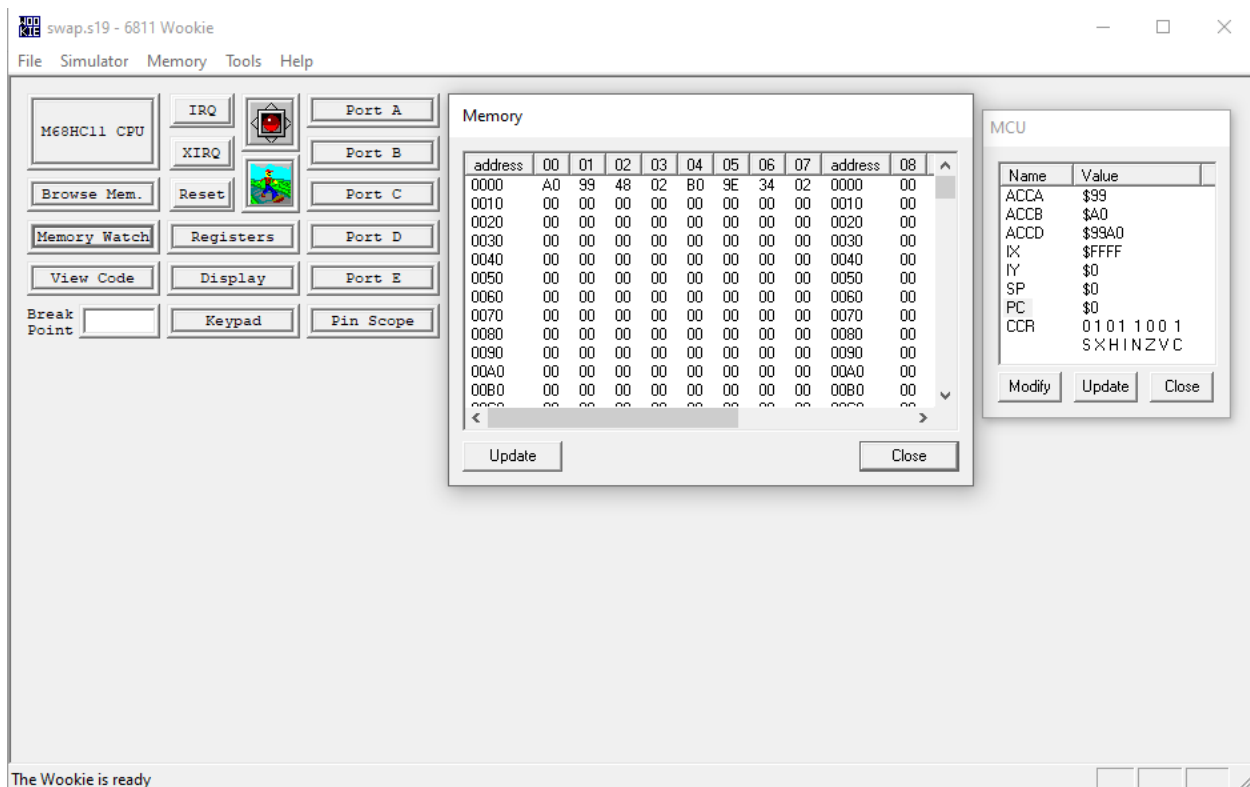
Update

Close

2.2)

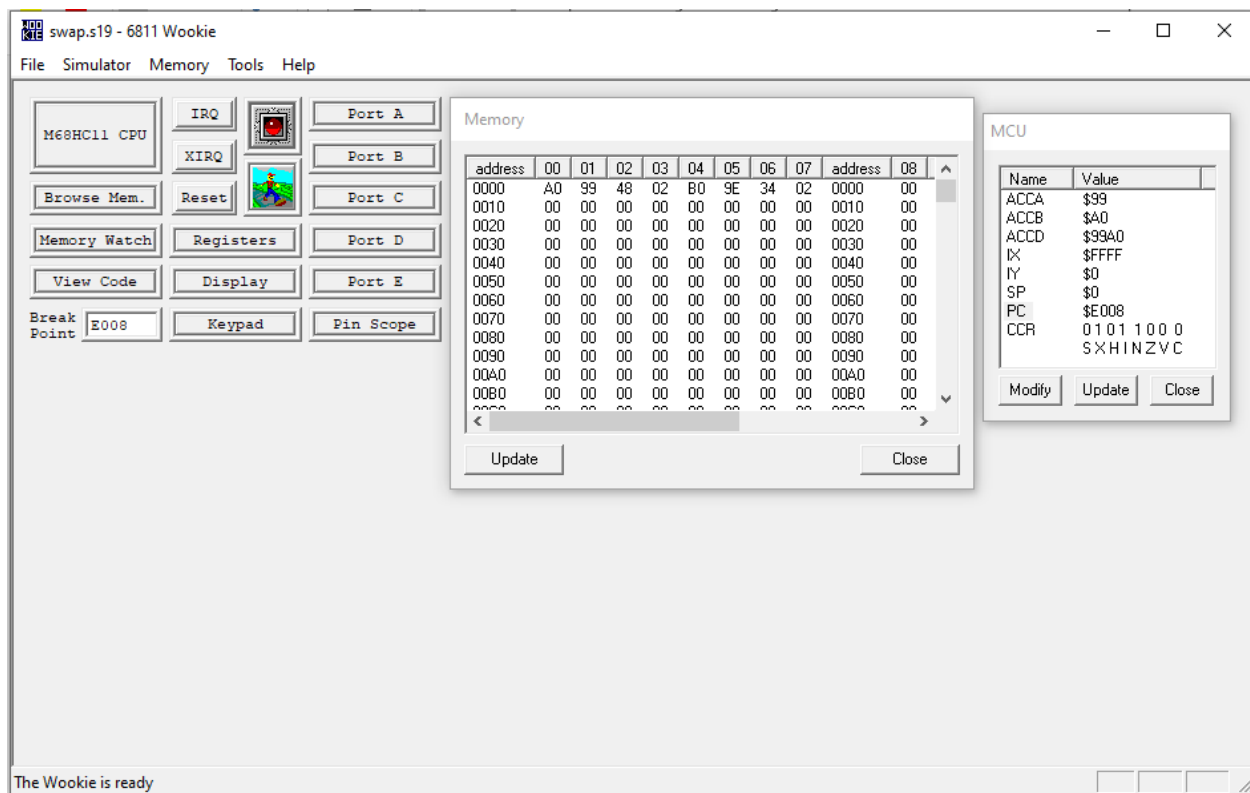


2.3)



Yes, the swap took place. As you can see from 2.2, 99 was at memory location \$0000 and A0 at \$0001. In contrast to 2.3, A0 moved to \$0000, while 99 moved to \$0001.

2.4)



3.1)

AS11M 01.05 Thu Mar 18, 2021 00:16 add.lst

```

0001          ; ADD 2 8 BIT NUMBERS
0002          ;
0003
0004 0000      ORG    $0000;
0005 0000 02      NUM1 FCB    $02;
0006 0001 02      NUM2 FCB    $02;
0007 0002 00      SUM8 FCB    $00;
0008
0009 e000      ORG    $E000;
0010 e000 96 00      LDAA  NUM1;

```

```
0011 e002 d6 01      LDAB  NUM2;
0012 e004 1b         ABA;
0013 e005 19         DAA;
0014 e006 97 02      STAA  SUM8;
0015 e008 01         NOP;
```

Number of errors 0

Number of warnings 0

