

ARM Macro Assembler Page 1

```

1 00000000      ;*****
                ;*****
2 00000000      ; Author: Wesley Muehlhausen
3 00000000      ; Lab 1: Arithmetic Computation
4 00000000      ; Date Created: September 21 2020
5 00000000      ; Last Modified: September 21 2020
6 00000000      ; Description:
7 00000000      ; Inputs:
8 00000000      ; Outputs:
9 00000000      ;*****
                ;*****
10 00000000      AREA      MyData, DATA, READWRITE, ALIGN=
2
11 00000000      7
                Vx      RN      R7
12 00000000 00      Vy      DCB      0      ;
13 00000001 00      Vz      DCB      0      ;
14 00000002
15 00000002      AREA      MyCode, CODE, READONLY, ALIGN=2
16 00000000      EXPORT      __main
17 00000000      __main
18 00000000
19 00000000      ;Vy = 7*Vx + 120
20 00000000 F04F 0708      MOV      Vx, #8      ;init Vx
21 00000004 4639      MOV      R1, Vx      ;Make copy of Vx in
                R1
22 00000006 EA4F 01C1      LSL      R1, R1, #3      ;Multiply by 8
23 0000000A EBA1 0107      SUB      R1, R1, Vx      ;; Changes from 8x
                to 7x
24 0000000E F101 0178      ADD      R1, R1, #120 ; add 120 to
25 00000012 4B04      LDR      R3, =Vy      ;R0 is address of V
                y
26 00000014 6019      STR      R1, [R3]      ; Vy = R2
27 00000016
28 00000016      ;Vz = Vy/8 + 25
29 00000016 460C      MOV      R4, R1      ;; put Vy in R4
30 00000018 EA4F 04D4      LSR      R4, R4, #3      ;divide by 8
31 0000001C F104 0419      ADD      R4, R4, #25 ;add 25
32 00000020 4D01      LDR      R5, =Vz      ;R5 is address of V
                y
33 00000022 602C      STR      R4, [R5]      ;Vy = R4
34 00000024
35 00000024
36 00000024      END
00000000
00000000

```

```

Command Line: --debug --xref --diag_suppress=9931 --cpu=Cortex-M4.fp --apcs=int
erwork --depend=.\objects\main.d -o.\objects\main.o -I.\RTE\_Target_1 -IC:\Keil
_v5\ARM\PACK\ARM\CMSIS\5.3.0\CMSIS\Include -IC:\Keil_v5\ARM\PACK\Keil\TM4C_DFP\
1.1.0\Device\Include\TM4C123 --predefine="__EVAL SETA 1" --predefine="__UVISION
_VERSION SETA 523" --predefine="__RTE_ SETA 1" --predefine="TM4C123GH6PM SETA 1"
--list=.\listings\main.lst main.s

```

ARM Macro Assembler Page 1 Alphabetic symbol ordering  
Relocatable symbols

MyData 00000000

Symbol: MyData

Definitions

At line 10 in file main.s

Uses

None

Comment: MyData unused

Vy 00000000

Symbol: Vy  
  Definitions  
    At line 12 in file main.s  
  Uses  
    At line 25 in file main.s  
Comment: Vy used once  
Vz 00000001

Symbol: Vz  
  Definitions  
    At line 13 in file main.s  
  Uses  
    At line 32 in file main.s  
Comment: Vz used once  
3 symbols

ARM Macro Assembler      Page 1 Alphabetic symbol ordering  
Relocatable symbols

MyCode 00000000

Symbol: MyCode  
  Definitions  
    At line 15 in file main.s  
  Uses  
    None  
Comment: MyCode unused  
\_\_main 00000000

Symbol: \_\_main  
  Definitions  
    At line 17 in file main.s  
  Uses  
    At line 16 in file main.s  
Comment: \_\_main used once  
2 symbols  
343 symbols in table