

Forum:[Hack Forums](#)

Thread: [Assembler - 200 Class assignment, I'm so lost.](#)

Rolex™ - February 6, 2017, 3:41 pm

So I'm trying to learn assembler and I'm using z390 as an emulator(not my choice) and I'm having a great deal of difficulty. I was hoping for some help because I have ALOT of errors.

Here's the assignment:

So I took the college try at it and got this:

```
Code FIRST  CSECT
          BALR 12,0
          USING BASE,12
* FIRST VOLUME BEING CALCULATED -----
          L   R2,L1      STORE L1 IN REG 2.
          L   R3,W1      STORE W1 IN REG 3.
          L   R4,H1      STORE H1 IN REG 4.
          MR  R1,3       MUTIPLY CONTENTS OF REG 2. BY REG 3. STORE CONTENTS IN
REG 2.
          M   R1,H1      MUTIPLY CONTENTS OF REG 2. BY H1.
          ST  R2,VOL1    STORE RESULT OF VOLUME IN VOL1.
* SECOND VOLUME BEING CALCULATED -----
          L   R2,L1      STORE L1 IN REG 2.(UNCHANGED FROM BEFORE)
          M   R1,DBL      DOUBLES REG 2. VALUE
          ST  R2,L2      STORE DOUBLED LENGTH IN L2
          M   R2,DBL      DOUBLES REG 3. VALUE
          ST  R3,W2      STORE DOUBLED WIDTH IN W2
          M   R3,DBL      DOUBLES REG 4. VALUE
          ST  R4,H2      STORE DOUBLED HEIGHT IN H2
          MR  R1,3       MUTIPLY CONTENTS OF REG 2. BY REG 3. STORE CONTENTS IN
REG 2.
          M   R1,H2      MUTIPLY CONTENTS OF REG 2. BY H1.
          ST  R2,VOL2    STORE RESULT OF VOLUME(DOUBLED) IN VOL2.
* DIFF. BETWEEN BOTH -----
          L   R2,VOL1    LOAD VOL1 INTO REG. 2.
          S   R2,VOL2    SUBTRACT R2 FROM VOL2.
          ST  R2,DIF     STORE THE RESULT.
* LABLES -----
L1      DC  F'2'        LENGTH - 2
W1      DC  F'2'        WIDTH - 2
H1      DC  F'2'        HEIGHT - 2
DBL     DC  F'2'        CONSTANT TO DOUBLE ALL VALUES.
VOL1    DS  F           STORES VOLUME 1. - NON DOUBLED.
VOL2    DS  F           STORES VOLUME 2. - DOUBLED.
L2      DS  F           DOUBLED LENGTH
W2      DS  F           DOUBLED WIDTH
H2      DS  F           DOUBLED HEIGHT
DIF     DS  F           DIFF. BETWEEN VOL1 AND VOL2
```

*

*So I thought that this was it because I understand the concept of everything here, but Z390 gives me this output:

Code Enter command or help

Microsoft Windows [Version 6.1.7601]

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*** 02/06/17 18:26:24 CMD task started

C:\Program Files (x86)\Automated Software Tools\z390>CD \Program Files (x86)\Automated Software Tools\z390\

C:\Program Files (x86)\Automated Software Tools\z390>ASMLG "C:\Users\Owner\Desktop\New folder\SHELL" TRACE CON

C:\Program Files (x86)\Automated Software Tools\z390>rem asmlg assemble, link, and go from mlc to 390 execution

C:\Program Files (x86)\Automated Software Tools\z390>echo off

18:26:24 SHELL MZ390 START USING z390 V1.5.06 ON J2SE 1.8.0_73 02/06/17

AZ390E error 98 (1/3)3 USING BASE,12

AZ390E error 198 (1/5)5 L R2,L1 STORE L1 IN REG 2.

AZ390E error 198 (1/6)6 L R3,W1 STORE W1 IN REG 3.

AZ390E error 198 (1/7)7 L R4,H1 STORE H1 IN REG 4.

AZ390E error 198 (1/8)8 MR R1,3 MUTIPLY CONTENTS OF REG 2. BY

REG 3. STORE

AZ390E error 198 (1/9)9 M R1,H1 MUTIPLY CONTENTS OF REG 2. BY H1.

AZ390E error 198 (1/10)10 ST R2,VOL1 STORE RESULT OF VOLUME IN VOL1.

AZ390E error 198 (1/12)12 L R2,L1 STORE L1 IN REG 2.(UNCHANGED FROM BEFORE)

AZ390E error 198 (1/13)13 M R1,DBL DOUBLES REG 2. VALUE

AZ390E error 198 (1/14)14 ST R2,L2 STORE DOUBLED LENGTH IN L2

AZ390E error 198 (1/15)15 M R2,DBL DOUBLES REG 3. VALUE

AZ390E error 198 (1/16)16 ST R3,W2 STORE DOUBLED WIDTH IN W2

AZ390E error 198 (1/17)17 M R3,DBL DOUBLES REG 4. VALUE

AZ390E error 198 (1/18)18 ST R4,H2 STORE DOUBLED HEIGHT IN H2

AZ390E error 198 (1/19)19 MR R1,3 MUTIPLY CONTENTS OF REG 2. BY

REG 3. STORE

AZ390E error 198 (1/20)20 M R1,H2 MUTIPLY CONTENTS OF REG 2. BY H1.

AZ390E error 198 (1/21)21 ST R2,VOL2 STORE RESULT OF VOLUME(DOUBLED) IN VOL2.

AZ390E error 198 (1/23)23 L R2,VOL1 LOAD VOL1 INTO REG. 2.

AZ390E error 198 (1/24)24 S R2,VOL2 SUBTRACT R2 FROM VOL2.

AZ390E error 198 (1/25)25 ST R2,DIF STORE THE RESULT.

18:26:25 SHELL MZ390 ENDED RC=12 SEC= 0 MEM(MB)= 38 IO=232

Press any key to continue . . .

C:\Program Files (x86)\Automated Software Tools\z390>exit

*** 02/06/17 18:26:25 CMD task ended TOT SEC=1 TOT LOG IO=30

So pretty much I've been trying to figure out what I'm doing wrong for an hour, and I have no clue. I think I'm having such an issue because I've been a high level programmer all my life. So what the fuck am I doing wrong guys?

Annabelle Lee - February 6, 2017, 4:38 pm

Can you link the emulator/how to compile it so I can test it out for you?

Rolex™ - February 6, 2017, 4:48 pm

(Feb 6, 2017 05:38 PM)Annabelle Lee Wrote: [\[CITE\]](#) Can you link the emulator/how to compile it so I can test it out for you?

Sure I can:

[Windows - Z390](#)

You need to have Java installed to install Z390. After you do that, you can compile my code into a file called Code anythingyouwant.mlc

Once you did that I suggest putting that file into a folder, because Z390 will generate a bunch of shit. You can then open Z390 and do File > ASMLG and pick your anythingyouwant.mlc and run it. I recommend you do "Trace" option under the "Options" drop down. Thanks for your help!

Rolex™ - February 9, 2017, 7:31 am

If anyone ever needs it here's the solution (one way at least):

TITLE 'ASSIGNMENT ONE - AREA CALCULATION.'

ONE CSECT

Code *****

* AUTHOR: ROLEX

* DESCRIPTION: DOES SUBTRACTION BETWEEN AN AREA AND THAT AREA DOUBLED.

* STATUS: WORKING 100%

*

R12 EQU 12 BASE REGISTER

R13 EQU 13 SAVE AREA POINTER

R14 EQU 14 RETURN REGISTER

* STANDARD ENTRY AND INITIALIZATION:

STM R14,R12,12(R13) SAVE REGISTERS

BALR R12,0 LOAD BASE REGISTER

USING BASE,R12 DECLARE BASE ADDRESS AND REGISTER

BASE ST R13,SAVE+4 SAVE R13

LA R13,SAVE R13 = ADDRESS OF SAVE AREA

* BEGIN

L 3,L1 R3 = LENGTH OF BOX.

L 5,W1 R5 = WIDTH OF BOX.

L 7,H1 R7 = HEIGHT OF BOX.

MR 2,5 HEIGHT OF BOX X WIDTH OF BOX.

M 2,H1 RESULT OF MUTIPLY X HEIGHT OF BOX.

ST 3,VOL1 R2 = ALL HEIGHT X WIDTH X HEIGHT.

L 3,L1 R3 = LENGTH OF BOX.

M 2,DBL MUTIPLY LENGTH OF BOX BY 2.

ST 3,L2 R3 = LENGTH OF BOX X 2.

M 4,DBL MUTIPLY WIDTH OF BOX BY 2.

ST 5,W2 R5 = WIDTH OF BOX BY 2.

M 6,DBL MUTIPLY HEIGHT OF BOX BY 2

ST 7,H2 R7 = HEIGHT OF BOX X 2

MR 2,5 MUTIPLY LENGTH OF BOX (DOUBLED) BY WIDTH OF BOX(DOUBLED)

M 2,H2 MUTIPLY RESULT BY HEIGHT OF BOX (DOUBLED)

ST 3,VOL2 R3 = LENGTH X WIDTH X HEIGHT

L 3,VOL2 R3 = VOLUME OF FIRST BOX.

S 3,VOL1 SECOND VOLUME(DOUBLED) - FIRST VOLUME.

ST 3,DIF R3 = DIFF. BETWEEN VOLUMES.

* STANDARD EXIT:

DONE L R13,SAVE+4 RESTORE R13

LM R14,R12,12(R13) RESTORE REGISTERS

BR R14 RETURN

* STORAGE:

L1 DC F'2' LENGTH = 2

W1 DC F'2' WIDTH = 2

H1 DC F'2' HEIGHT = 2

DBL DC F'2' CONSTANT VALUE = 2

VOL1 DS F STORAGE FOR FIRST VOLUME (NON-DOUBLED)

VOL2 DS F STORAGE FOR SECOND VOLUME (DOUBLED)

L2 DS F LENGTH(DOUBLED)

W2 DS F WIDTH(DOUBLED)

H2 DS F HEIGHT(DOUBLED)

DIF DS F STORAGE FOR DIFFERENCE IN VOLUMES.

SAVE DS 18F

END ONE