



Assessment Module: 6

Rana, Karan

CSIT_230_03SP21

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Problem 1:

.data

prompt1: .ascii "Enter first integer: "

prompt2: .ascii "Enter second integer: "

prompt3: .ascii "Enter third integer: "

message: .ascii "The sum of the three integers is: "

.text

#prompt the user to enter first integer

li \$v0,4

la \$a0, prompt1

syscall

#Get the first integer

li \$v0,5

syscall

#Store the result in \$t0

move \$t0,\$v0

#prompt the user to enter second integer

li \$v0,4

la \$a0, prompt2

syscall

#Get the second integer

li \$v0,5

syscall

#Store the result in \$t1

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move \$t1,\$v0

#prompt the user to enter third integer

li \$v0,4

la \$a0, prompt3

syscall

#end

#Get the third integer

li \$v0,5

syscall

#Store the result in \$t2

move \$t2,\$v0

#Adding three integers and keeping \$t3

add \$t1,\$t1,\$t0

add \$t3,\$t1,\$t2

#Display message

li \$v0,4

la \$a0,message

syscall

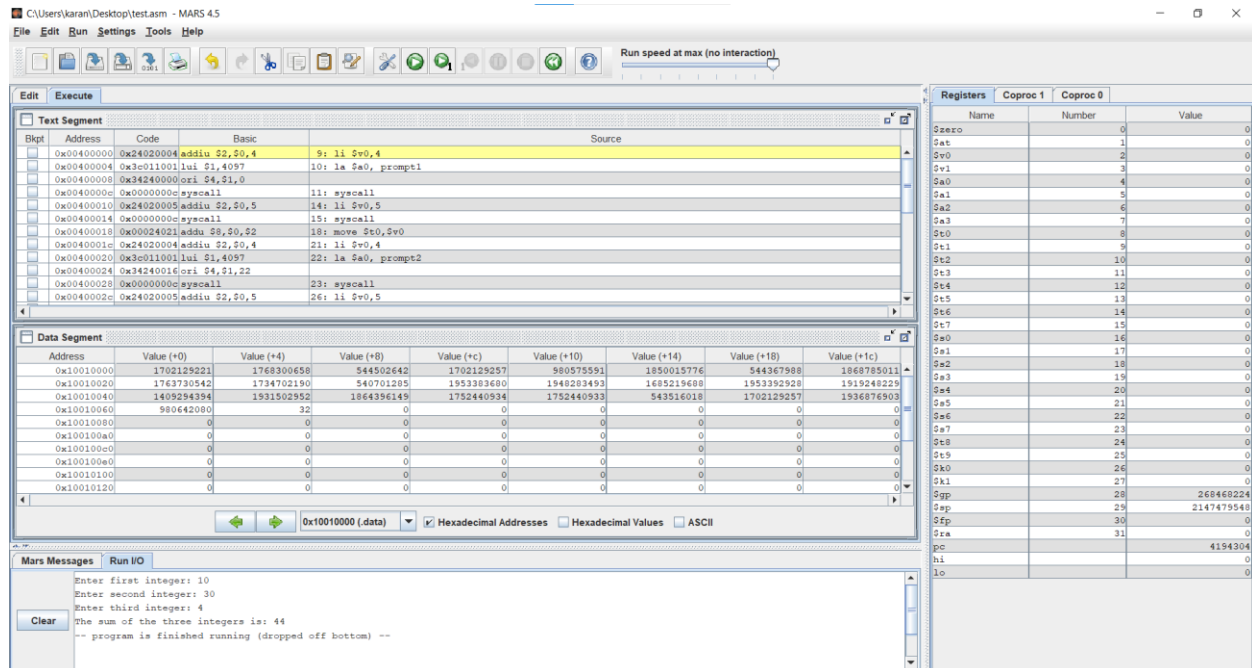
#Print the sum

li \$v0,1

move \$a0,\$t3

syscall

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Problem 2:

.data

x: .asciiz "Enter x:"

n: .asciiz "Enter n:"

y: .asciiz "Enter y:"

str: .asciiz "Equation:"

.text

main:

li \$v0,4

la \$a0,x

syscall

li \$v0,5

syscall

move \$t0, \$v0

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li \$v0,4

la \$a0,n

syscall

li \$v0,5

syscall

move \$t1, \$v0

li, \$v0,4

la \$a0,y

li \$v0,5

syscall

move \$t2, \$v0

li \$v0, 4

la \$a0, str

syscall

mul \$t0, \$t0, \$t0

mul \$t2, \$t2, \$t2

mul \$t1, \$t1, \$t2

mul \$t0, \$t0, \$t1

move \$a0, \$t0

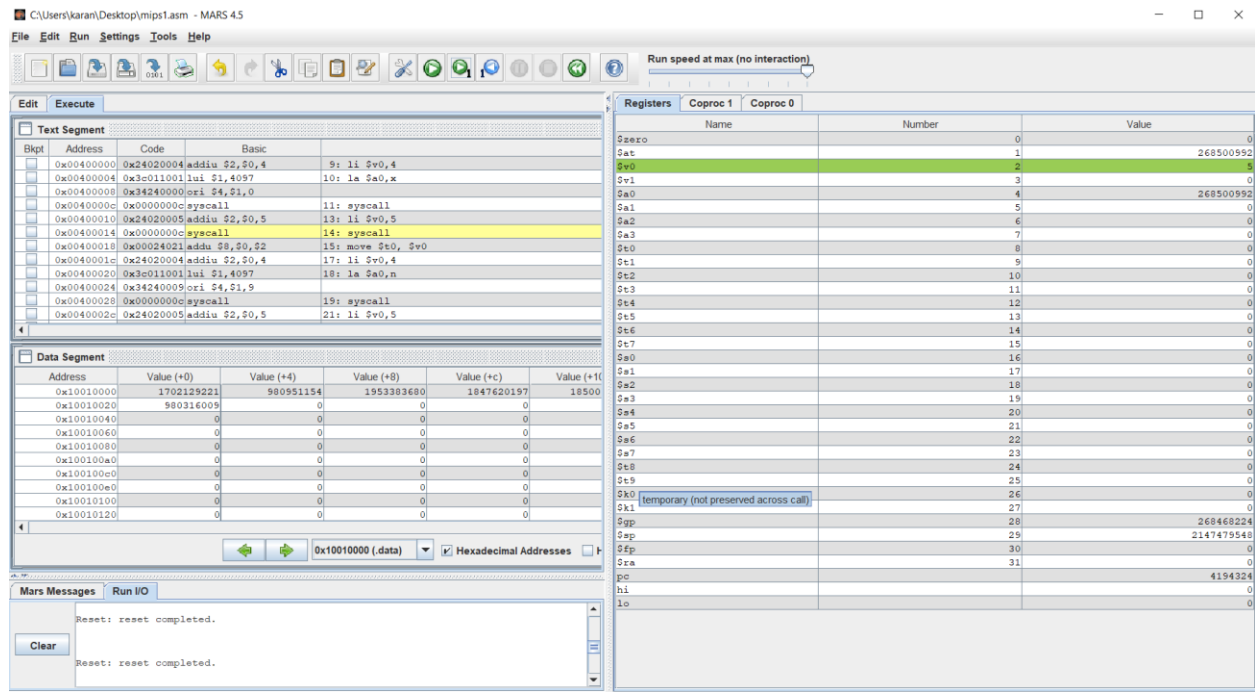
li \$v0,1

syscall

li \$v0,10

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syscall



Problem 3:

.data

prompt: .asciiz"\nResult is: "#prompt for string

.text

main:

li \$s0,3

li \$s1,2

li \$s2,1

mul \$s5,\$s0,\$s0

mul \$s5,\$s5,\$s0

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mul \$s6,\$s1,\$s1

mul \$s6,\$s6,\$s1

mul \$s5,\$s0,\$s0

mul \$s5,\$s5,\$s0

mul \$s6,\$s1,\$s1

mul \$s6,\$s6,\$s1

mul \$s7,\$s2,\$s2

mul \$s7,\$s7,\$s2

add \$t0,\$s5,\$s6

add \$t0,\$t0,\$s7

li \$v0,4

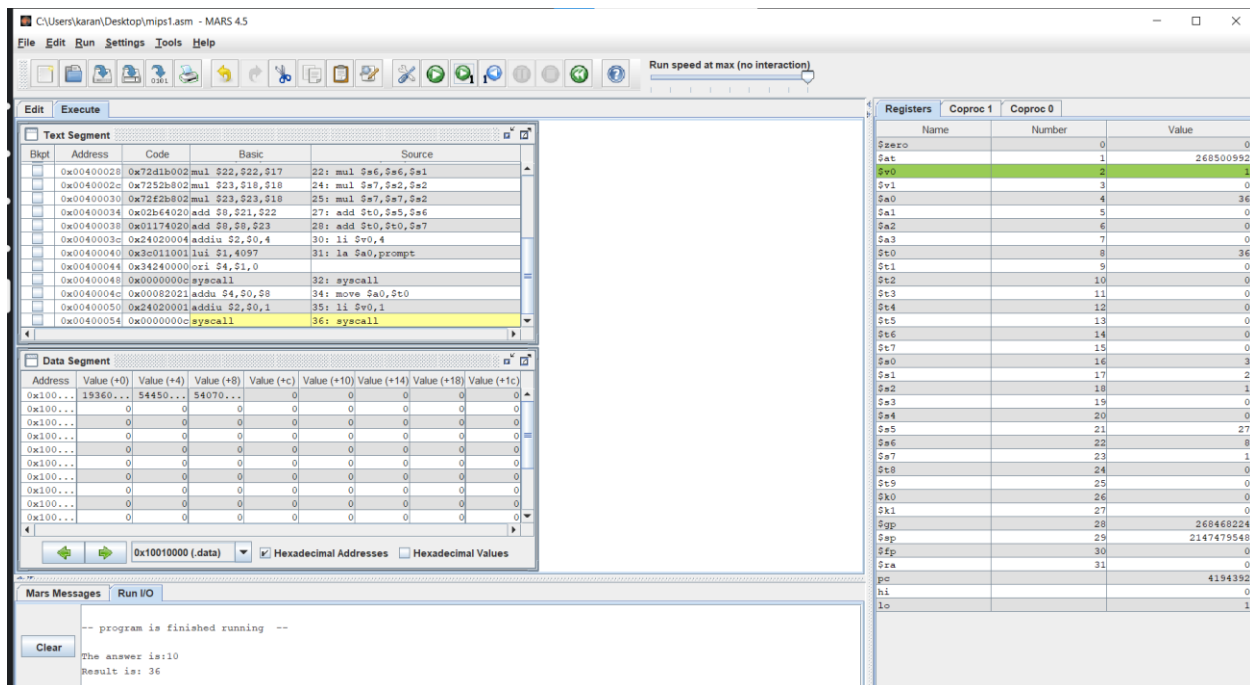
la \$a0,prompt

syscall

move \$a0,\$t0

li \$v0,1

syscall



Problem 4:

.data

prompt: .asciiz "Enter the 3x3 matrix from row 1 to row 2 to row 3 :"

answer: .asciiz "The Determinant is : "

.text

li \$v0,4

la \$a0, prompt

syscall

li \$v0,5 # THIS LOOPS 9 times to get all the user input

syscall

move \$t0,\$v0

li \$v0,5

syscall

move \$t1,\$v0

li \$v0,5

syscall

move \$t2,\$v0

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li \$v0,5

syscall

move \$t3,\$v0

li \$v0,5

syscall

move \$t4,\$v0

li \$v0,5

syscall

move \$t5,\$v0

li \$v0,5

syscall

move \$t6,\$v0

li \$v0,5

syscall

move \$t7,\$v0

li \$v0,5

syscall

move \$t8,\$v0

jal determ

li \$v0,4

la \$a0, answer

syscall

move \$a0,\$s7

li \$v0,1

syscall

li \$v0,10

syscall

determ:

mult \$t4,\$t8

mflo \$s1

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mult \$t5,\$t7

mflo \$s2

sub \$s2,\$s1,\$s2

mult \$s2,\$t0

mflo \$s2

mult \$t3,\$t8

mflo \$s3

mult \$t5,\$t6

mflo \$s4

sub \$s4,\$s3,\$s4

mult \$s4,\$t1

mflo \$s4

sub \$s4,\$s2,\$s4

mult \$t3,\$t7

mflo \$s5

mult \$t4,\$t6

mflo \$s6

sub \$s6,\$s5,\$s6

mult \$s6,\$t2

mflo \$s6

add \$s7, \$s4,\$s6

jr \$ra

#end

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C:\Users\karan\Desktop\test.asm - MARS 4.5

File Edit Run Settings Tools Help

Run speed at max (no interaction)

Edit Execute

Text Segment

Block	Address	Code	Basic	Source
	0x00400000	0x00000000 syscall	7: syscall	
	0x00400010	0x24020005 addiu \$2,\$0,5	8: li \$v0,5	
	0x00400014	0x00000000 syscall	9: syscall	
	0x00400018	0x00024021 addu \$8,\$0,\$2	10: move \$t0,\$v0	
	0x0040001c	0x24020005 addiu \$2,\$0,5	11: li \$v0,5	
	0x00400020	0x00000000 syscall	12: syscall	
	0x00400024	0x00024821 addu \$9,\$0,\$2	13: move \$t1,\$v0	
	0x00400028	0x24020005 addiu \$2,\$0,5	14: li \$v0,5	
	0x0040002c	0x00000000 syscall	15: syscall	
	0x00400030	0x00025021 addu \$10,\$0,\$2	16: move \$t2,\$v0	
	0x00400034	0x24020005 addiu \$2,\$0,5	17: li \$v0,5	
	0x00400038	0x00000000 syscall	18: syscall	

Data Segment

Address	Value (+0)	Value (+4)	Value (+8)	Value (+c)	Value (+10)	Val
0x10010000	1702129221	1752440946	2016616549	1634541619	2020176500	
0x10010020	1914728308	840989527	544175136	544658226	3809331	
0x10010040	544501345	975205225	32	0	0	
0x10010060	0	0	0	0	0	
0x10010080	0	0	0	0	0	
0x100100a0	0	0	0	0	0	
0x100100c0	0	0	0	0	0	
0x100100e0	0	0	0	0	0	
0x10010100	0	0	0	0	0	
0x10010120	0	0	0	0	0	

Registers Coproc 1 Coproc 0

Name	Number	Value
\$zero	0	0
\$at	1	268500992
\$v0	2	5
\$v1	3	0
\$a0	4	268500992
\$a1	5	0
\$a2	6	0
\$a3	7	0
\$t0	8	412
\$t1	9	5
\$t2	10	5
\$t3	11	0
\$t4	12	0
\$t5	13	0
\$t6	14	0
\$t7	15	0
\$s0	16	0
\$s1	17	0
\$s2	18	0
\$s3	19	0
\$s4	20	0
\$s5	21	0
\$s6	22	0
\$s7	23	0
\$s8	24	0
\$s9	25	0
\$k0	26	0
\$k1	27	0
\$gp	28	268468224
\$sp	29	214747546
\$fp	30	0
\$ra	31	0
pc		4194360
hi		0
lo		0

Mars Messages Run I/O

Enter the 3x3 matrix from row 1 to row 2 to row 3 :412

103

235

Clear