Rana, Karan

CSIT230_SP21

M7-HW

1)

```
.data
DISPLAY: .asciiz"Result is:"
.text
MAIN:
addi $s1,$zero,1
addi $s0,$zero,0
LOOPA:
beq $s1,5,EXITA
add $s0,$s0,$s1
addi $s1,$s1,1
j LOOPA
EXITA:
li $v0,4
la $a0,DISPLAY
syscall

li $v0,1
move $a0,$s0
syscall
END:nop
```

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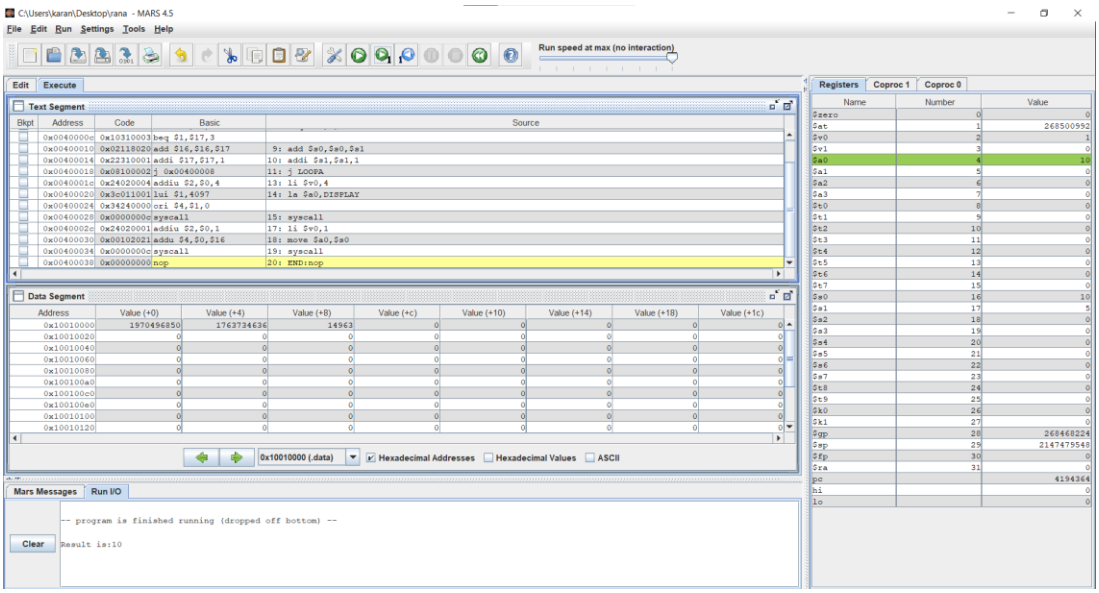

(b)

.data

DISPLAY: .asciiz"Result is "

.text

MAIN:

addi $s1, $zero,1

addi $s0, $zero,0

LOOPA:

beq $s1,4,EXITA

addi $s2, $zero,1

LOOPB:

beq $s2,4,EXITB

addi $s0,$s0,1

add $s0,$s0,$s1

add $0,$s0,$s2

addi $s2,$s2,1

j LOOPB

EXITB:

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addi $s1,$s1,1

j LOOPA

EXITA :

li $v0,4

la $a0,DISPLAY

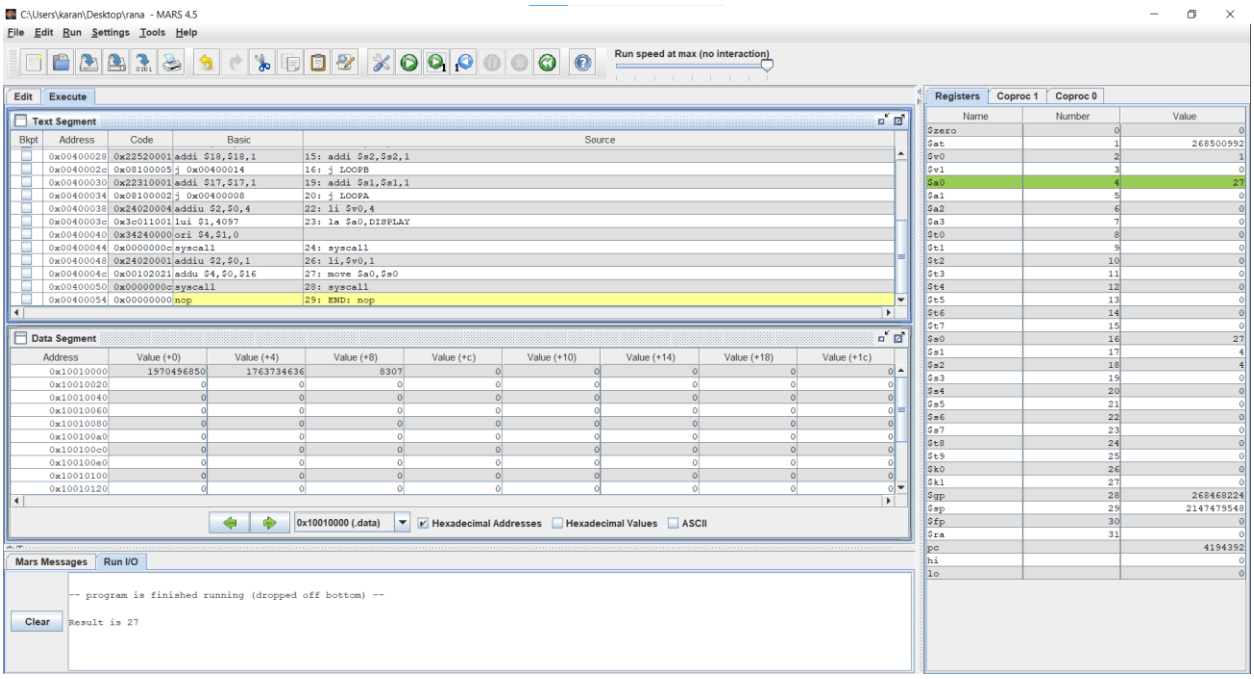
syscall

li,$v0,1

move $a0,$s0

syscall

END: nop



(c)

.data

DISPLAY: .asciiz"Result is "

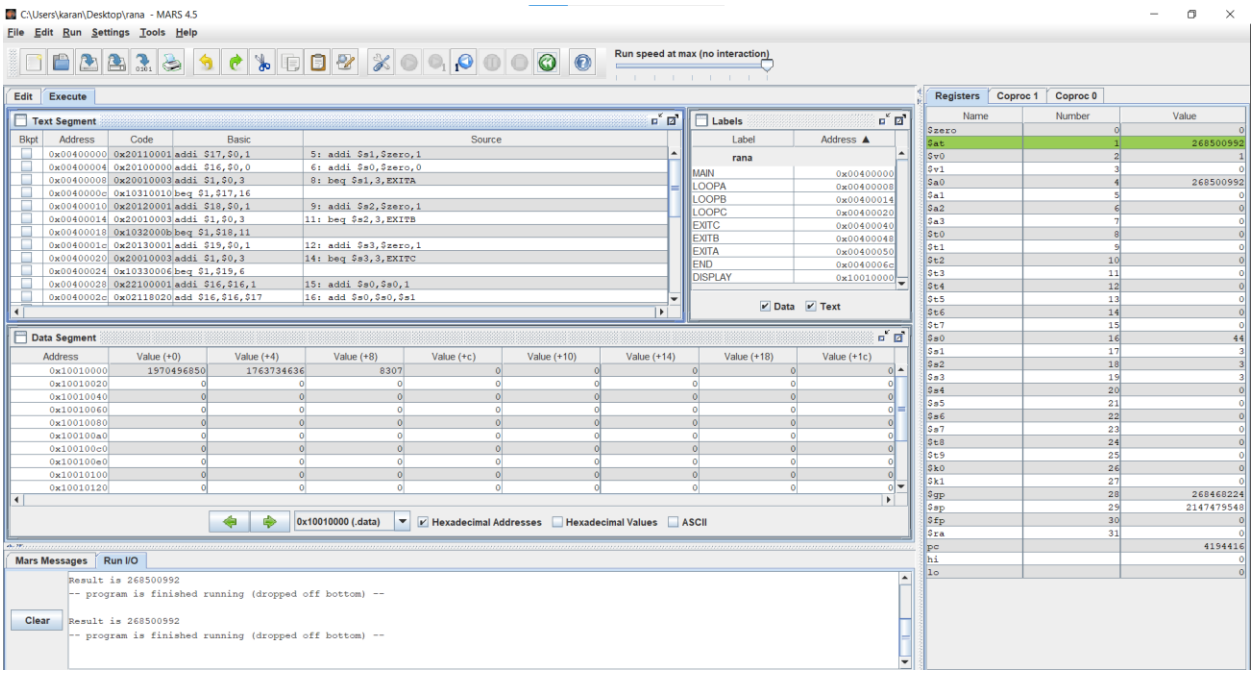
.text

MAIN:

addi $s1,$zero,1

```
addi $s0,$zero,0
LOOPA:
beq $s1,3,EXITA
addi $s2,$zero,1
LOOPB:
beq $s2,3,EXITB
addi $s3,$zero,1
LOOPC:
beq $s3,3,EXITC
addi $s0,$s0,1
add $s0,$s0,$s1
add $s0,$s0,$s2
add $s0,$s0,$s3
addi $s3,$s3,1
j LOOPC
EXITC: addi $s2,$s2,1
j LOOPB
EXITB: addi $s1,$s1,1
j LOOPA
EXITA:
li $v0,4
la $a0,DISPLAY
syscall

li $v0,1
move $a0,$a0
syscall
END:nop
```



(d)

.data

DISPLAY: .asciiz"Result is: "

.text

MAIN: addi $s1,$zero,1

addi $s0, $zero,0

LOOPA: beq $s1,3,EXITA

addi $s2,$zero,1

LOOPB: beq $s2,3,EXITB

addi $s3,$zero,1

LOOPC: beq $s3,3,EXITC

addi $s4,$zero,1

LOOPD: beq $s4,3,EXITD

addi $s0,$s0,1

add $s0,$s0,$s1

add $s0,$s0,$s2

add $s0,$s0,$s3

```
add $s0,$s0,$s4
addi $s4,$s4,1
j LOOPD

EXITD: addi $s3,$s3,1
j LOOPC
EXITC: addi $s2,$s2,1
j LOOPB
EXITB: addi $s1,$s1,1
j LOOPA
EXITA:
li $v0,4
la $a0,DISPLAY
syscall

li $v0,1
move $a0,$s0
syscall
END:nop
```

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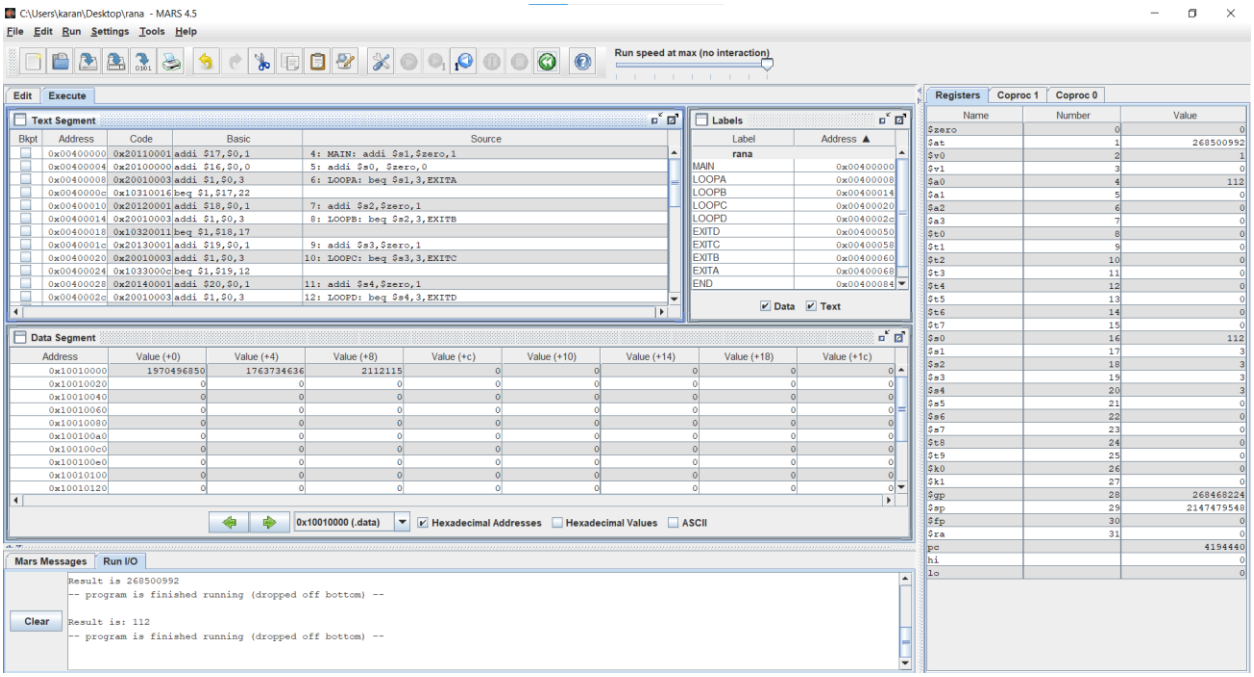

PART 2

.data

msg: .asciiz" Answer of this expression is: "

.text

main:

addi $t0,$zero,0

addi $t1,$zero,3

addi $t2,$zero,3

addi $t3,$zero,0

addi $s0,$zero,0

while:

beq $s0,2,exit

add $t3,$t3,$t1

add $t3,$t3,$t2

add $t1,$t1,$t1

```
addi $s0,$s0,1
j while
exit:

addi $s0,$zero,0
addi $t1,$zero,9
while1:

beq $s0,2,exit1
add $t3,$t3,$t1
add $t3,$t3,$t2
mul $t2,$t2,$t2

addi $s0,$s0,1
j while1
exit1:
li $v0,4
la $a0,msg
syscall

li $v0,1
addi $a0,$t3,0
syscall
```

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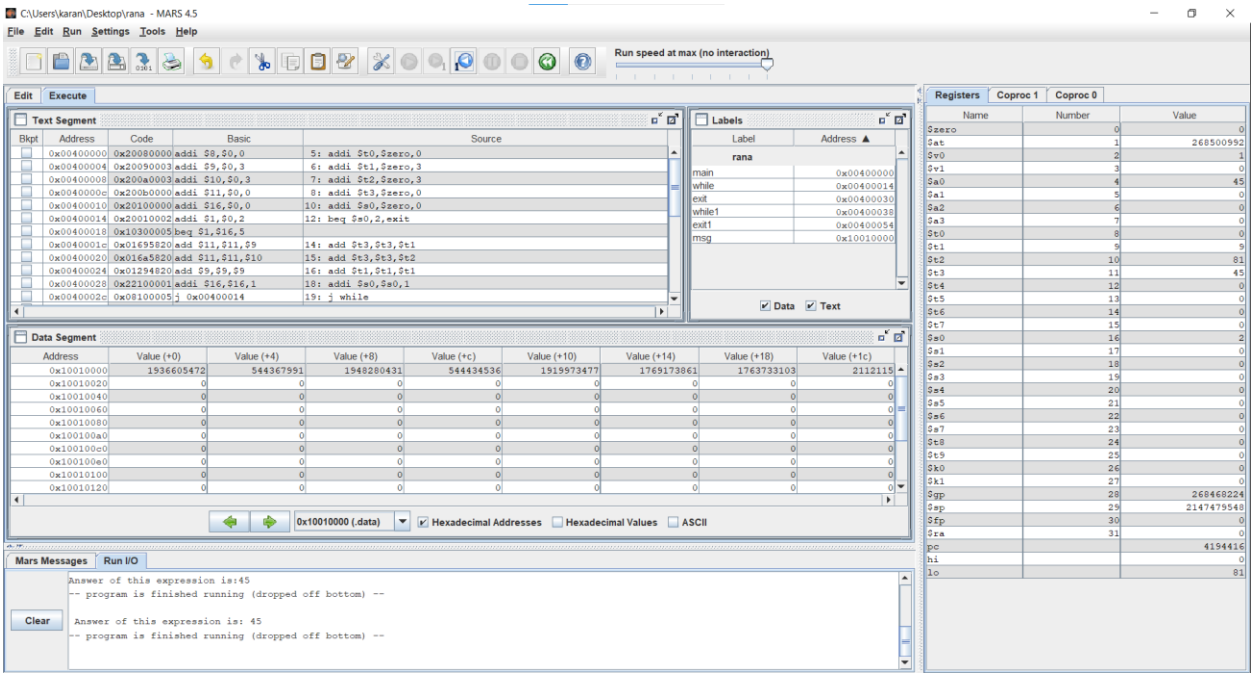
C:\Users\karan\Desktop\rana - MARS 4.5
File Edit Run Settings Tools Help
Run speed at max (no interaction)
Edit Execute
Text Segment
Bkpt Address Code Basic Source
0x00400000 0x20080000 addi $8,$0,0 5: addi $t0,$zero,0
0x00400004 0x20090003 addi $9,$0,3 6: addi $t1,$zero,3
0x00400008 0x200a0003 addi $10,$0,3 7: addi $t2,$zero,3
0x0040000c 0x200b0000 addi $11,$0,0 8: addi $t3,$zero,0
0x00400010 0x20100000 addi $16,$0,0 10: addi $s0,$zero,0
0x00400014 0x20010002 addi $1,$0,2 12: beq $s0,2,exit
0x00400018 0x10300005 beq $1,$16,5
0x0040001c 0x01695820 add $11,$11,$9 14: add $t3,$t3,$t1
0x00400020 0x016a5820 add $11,$11,$10 15: add $t3,$t3,$t2
0x00400024 0x01294820 add $9,$9,$9 16: add $t1,$t1,$t1
0x00400028 0x22100001 addi $16,$16,1 18: addi $s0,$s0,1
0x0040002c 0x08100005 j 0x00400014 19: j while
Labels
Label Address
rana
main 0x00400000
while 0x00400014
exit 0x00400030
while1 0x00400038
exit1 0x00400054
msg 0x10010000
Data Text
Data Segment
Address Value (+0) Value (+4) Value (+8) Value (+c) Value (+10) Value (+14) Value (+18) Value (+1c)
0x10010000 1936605472 544367991 1948280431 544434536 1919973477 1769173861 1763733103 2112115
0x10010020 0 0 0 0 0 0 0 0
0x10010040 0 0 0 0 0 0 0 0
0x10010060 0 0 0 0 0 0 0 0
0x10010080 0 0 0 0 0 0 0 0
0x100100a0 0 0 0 0 0 0 0 0
0x100100c0 0 0 0 0 0 0 0 0
0x100100e0 0 0 0 0 0 0 0 0
0x10010100 0 0 0 0 0 0 0 0
0x10010120 0 0 0 0 0 0 0 0
0x10010000 (.data) Hexadecimal Addresses Hexadecimal Values ASCII
Mars Messages Run I/O
Answer of this expression is:45
-- program is finished running (dropped off bottom) --
Clear
Answer of this expression is: 45
-- program is finished running (dropped off bottom) --
Registers Coproc 1 Coproc 0
Name Number Value
$zero 0 0
$at 1 268500992
$v0 2 1
$v1 3 0
$a0 4 45
$a1 5 0
$a2 6 0
$a3 7 0
$t0 8 0
$t1 9 9
$t2 10 81
$t3 11 45
$t4 12 0
$t5 13 0
$t6 14 0
$t7 15 0
$s0 16 2
$s1 17 0
$s2 18 0
$s3 19 0
$s4 20 0
$s5 21 0
$s6 22 0
$s7 23 0
$t8 24 0
$t9 25 0
$k0 26 0
$k1 27 0
$gp 28 268468224
$sp 29 2147479548
$fp 30 0
$ra 31 0
pc 4194416
hi 0
lo 81