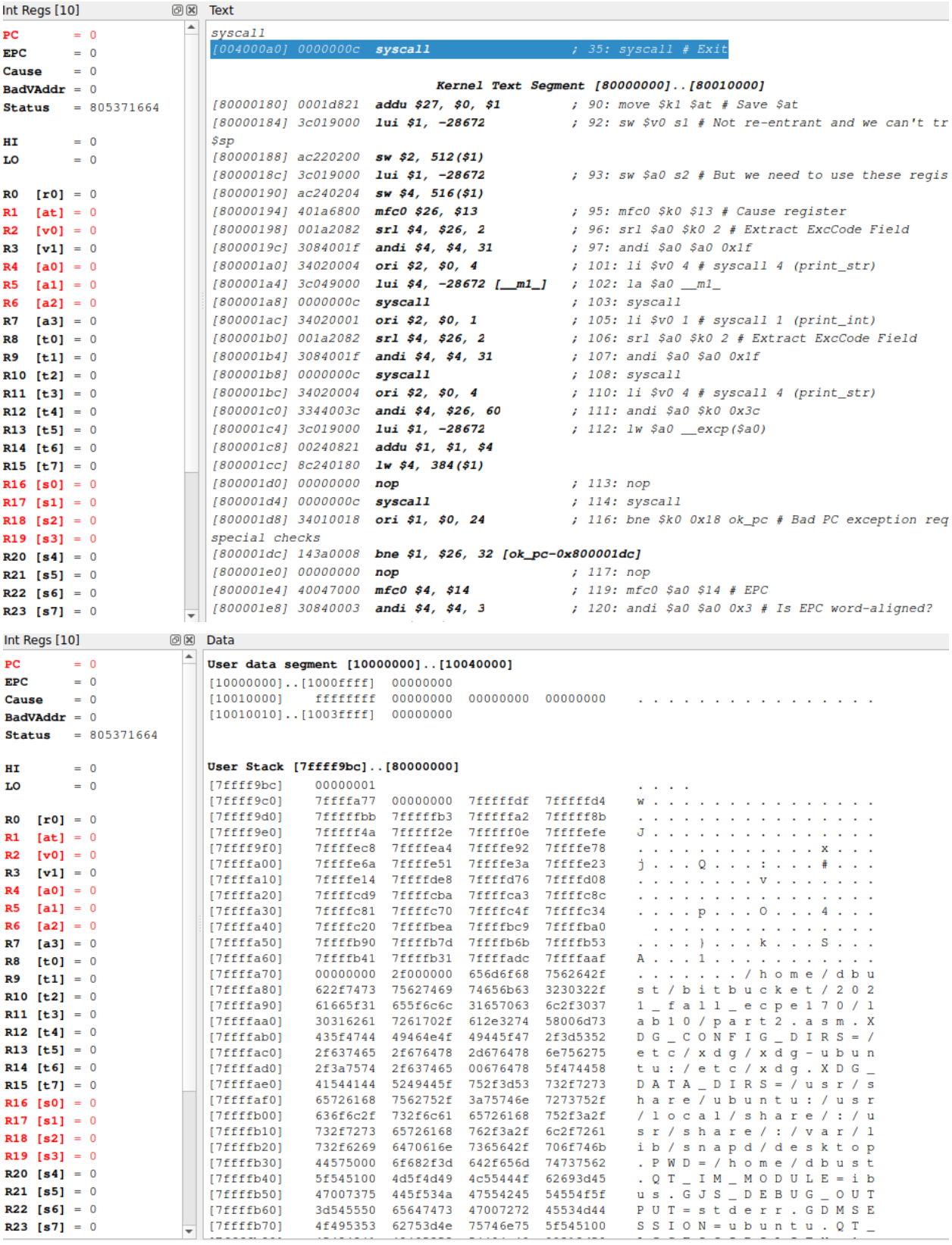
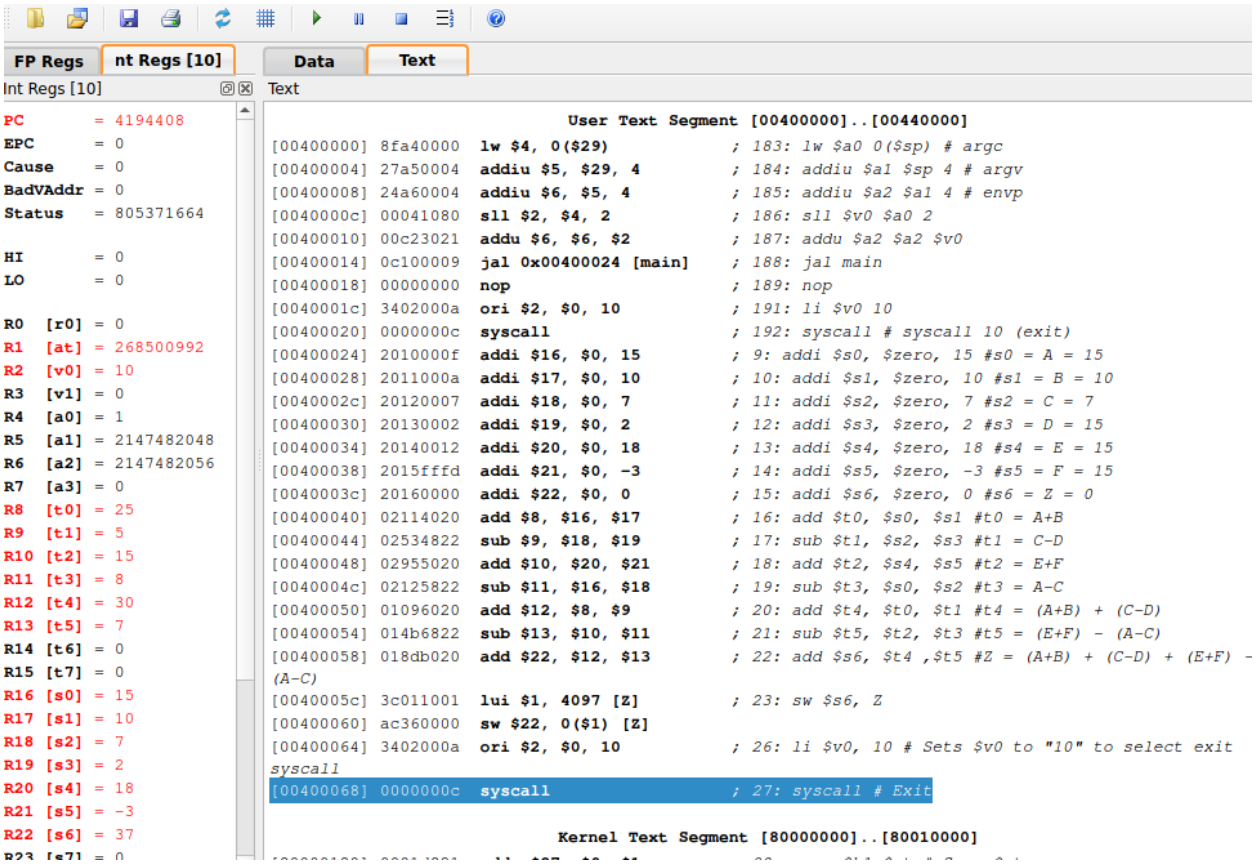
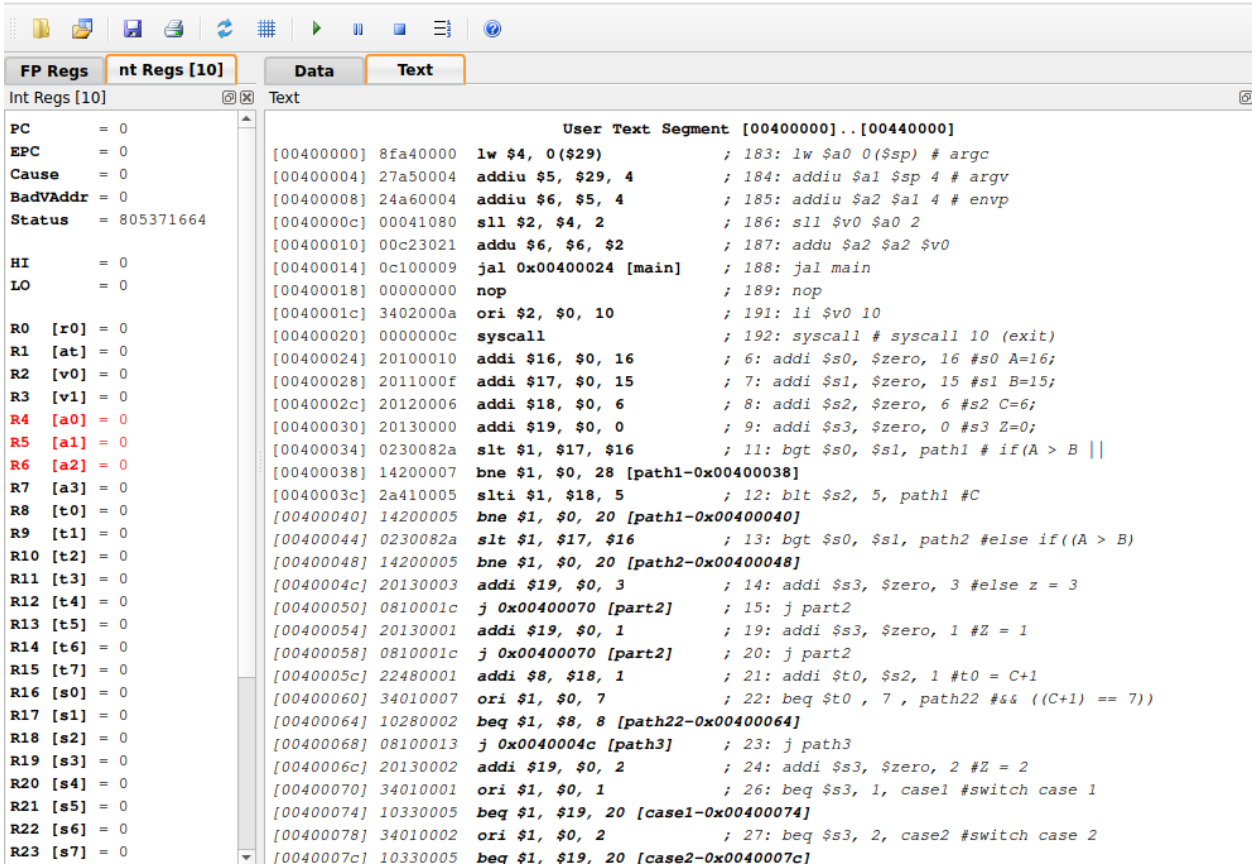
(1)before:

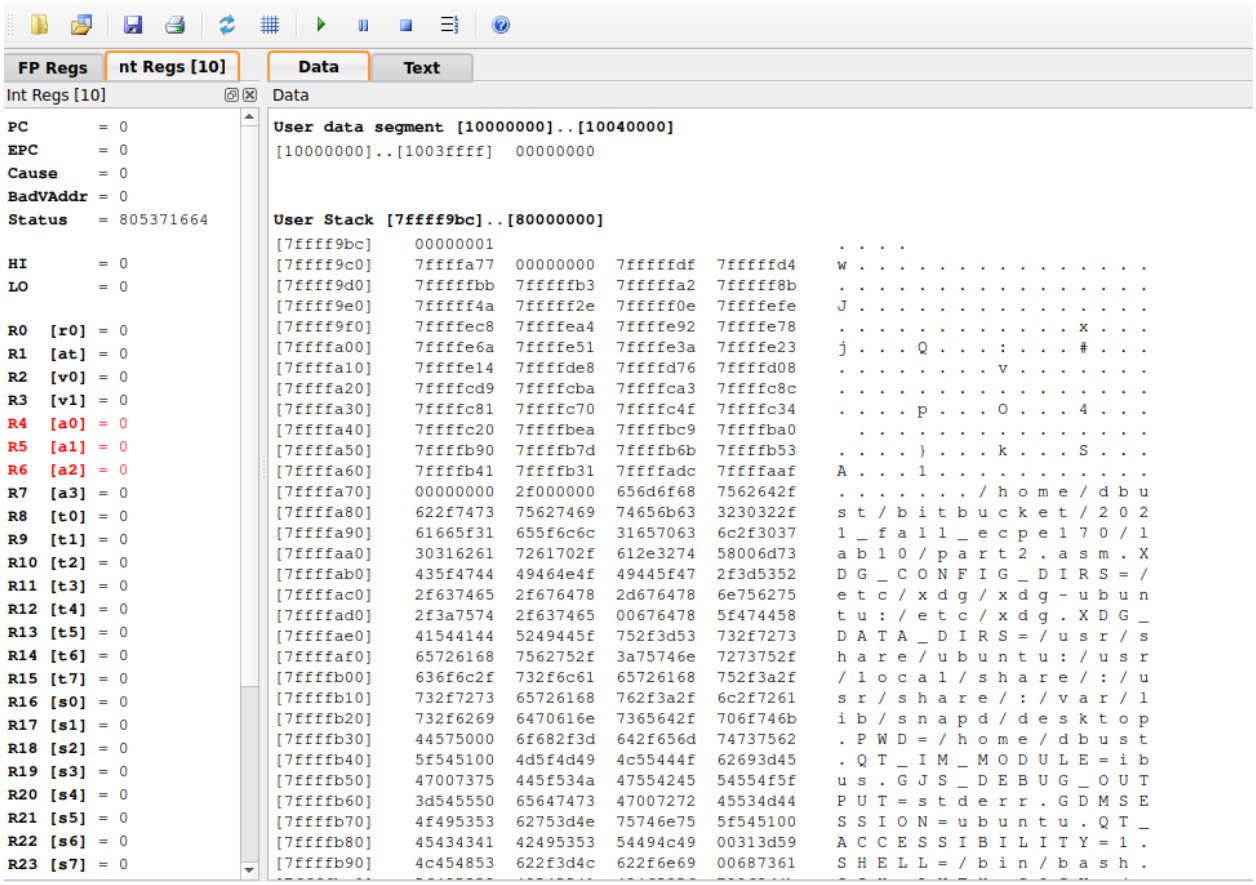


(2) after:

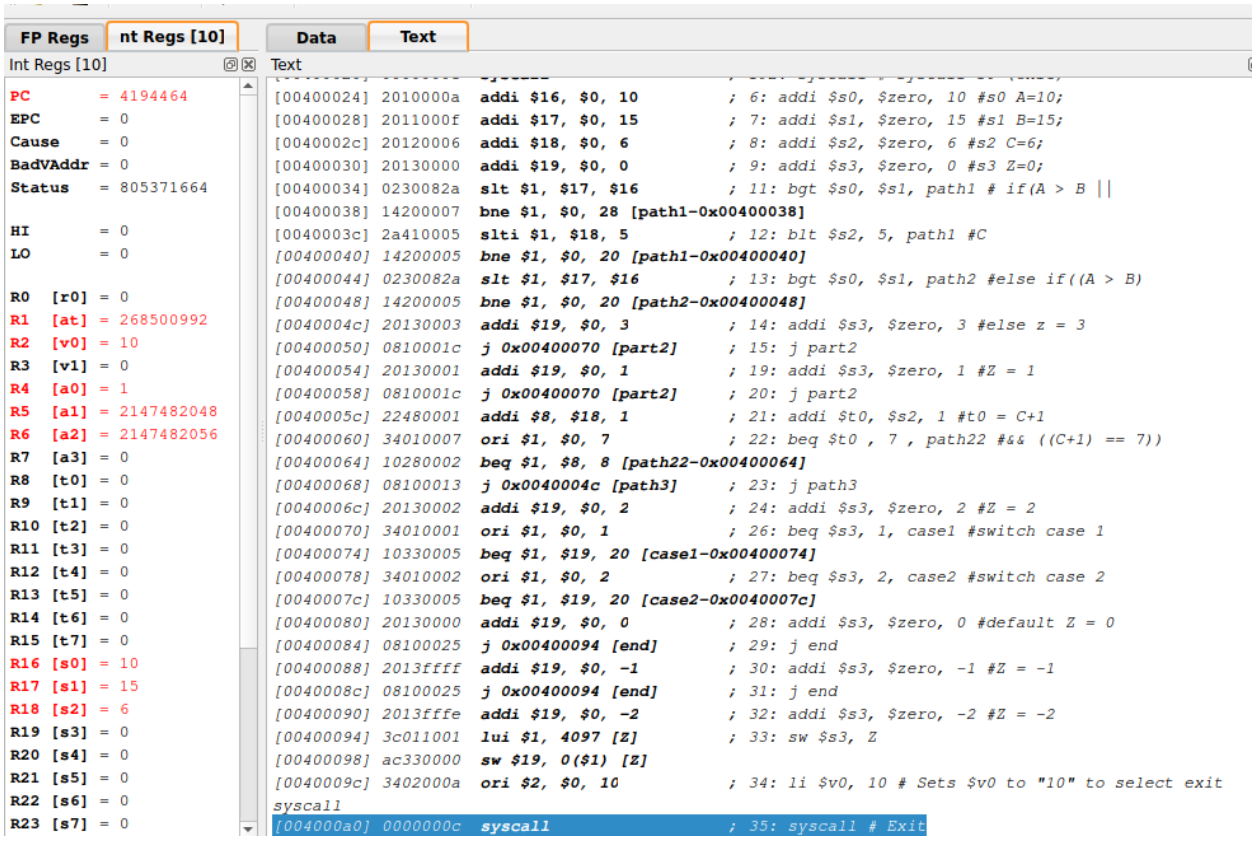

FP Regs
nt Regs [10]
Data
Text
Int Regs [10]
Text
PC = 4194408
EPC = 0
Cause = 0
BadVAddr = 0
Status = 805371664
HI = 0
LO = 0
R0 [r0] = 0
R1 [at] = 268500992
R2 [v0] = 10
R3 [v1] = 0
R4 [a0] = 1
R5 [a1] = 2147482048
R6 [a2] = 2147482056
R7 [a3] = 0
R8 [t0] = 25
R9 [t1] = 5
R10 [t2] = 15
R11 [t3] = 8
R12 [t4] = 30
R13 [t5] = 7
R14 [t6] = 0
R15 [t7] = 0
R16 [s0] = 15
R17 [s1] = 10
R18 [s2] = 7
R19 [s3] = 2
R20 [s4] = 18
R21 [s5] = -3
R22 [s6] = 37
User Text Segment [00400000]..[00440000]
[00400000] 8fa40000 lw $4, 0($29) ; 183: lw $a0 0($sp) # argc
[00400004] 27a50004 addiu $5, $29, 4 ; 184: addiu $a1 $sp 4 # argv
[00400008] 24a60004 addiu $6, $5, 4 ; 185: addiu $a2 $a1 4 # envp
[0040000c] 00041080 sll $2, $4, 2 ; 186: sll $v0 $a0 2
[00400010] 00c23021 addu $6, $6, $2 ; 187: addu $a2 $a2 $v0
[00400014] 0c100009 jal 0x00400024 [main] ; 188: jal main
[00400018] 00000000 nop ; 189: nop
[0040001c] 3402000a ori $2, $0, 10 ; 191: li $v0 10
[00400020] 0000000c syscall ; 192: syscall # syscall 10 (exit)
[00400024] 2010000f addi $16, $0, 15 ; 9: addi $s0, $zero, 15 #s0 = A = 15
[00400028] 2011000a addi $17, $0, 10 ; 10: addi $s1, $zero, 10 #s1 = B = 10
[0040002c] 20120007 addi $18, $0, 7 ; 11: addi $s2, $zero, 7 #s2 = C = 7
[00400030] 20130002 addi $19, $0, 2 ; 12: addi $s3, $zero, 2 #s3 = D = 15
[00400034] 20140012 addi $20, $0, 18 ; 13: addi $s4, $zero, 18 #s4 = E = 15
[00400038] 2015fffd addi $21, $0, -3 ; 14: addi $s5, $zero, -3 #s5 = F = 15
[0040003c] 20160000 addi $22, $0, 0 ; 15: addi $s6, $zero, 0 #s6 = Z = 0
[00400040] 02114020 add $8, $16, $17 ; 16: add $t0, $s0, $s1 #t0 = A+B
[00400044] 02534822 sub $9, $18, $19 ; 17: sub $t1, $s2, $s3 #t1 = C-D
[00400048] 02955020 add $10, $20, $21 ; 18: add $t2, $s4, $s5 #t2 = E+F
[0040004c] 02125822 sub $11, $16, $18 ; 19: sub $t3, $s0, $s2 #t3 = A-C
[00400050] 01096020 add $12, $8, $9 ; 20: add $t4, $t0, $t1 #t4 = (A+B) + (C-D)
[00400054] 014b6822 sub $13, $10, $11 ; 21: sub $t5, $t2, $t3 #t5 = (E+F) - (A-C)
[00400058] 018db020 add $22, $12, $13 ; 22: add $s6, $t4 ,$t5 #Z = (A+B) + (C-D) + (E+F) - (A-C)
[0040005c] 3c011001 lui $1, 4097 [Z] ; 23: sw $s6, Z
[00400060] ac360000 sw $22, 0($1) [Z]
[00400064] 3402000a ori $2, $0, 10 ; 26: li $v0, 10 # Sets $v0 to "10" to select exit syscall
[00400068] 0000000c syscall ; 27: syscall # Exit
Kernel Text Segment [80000000]..[80010000]

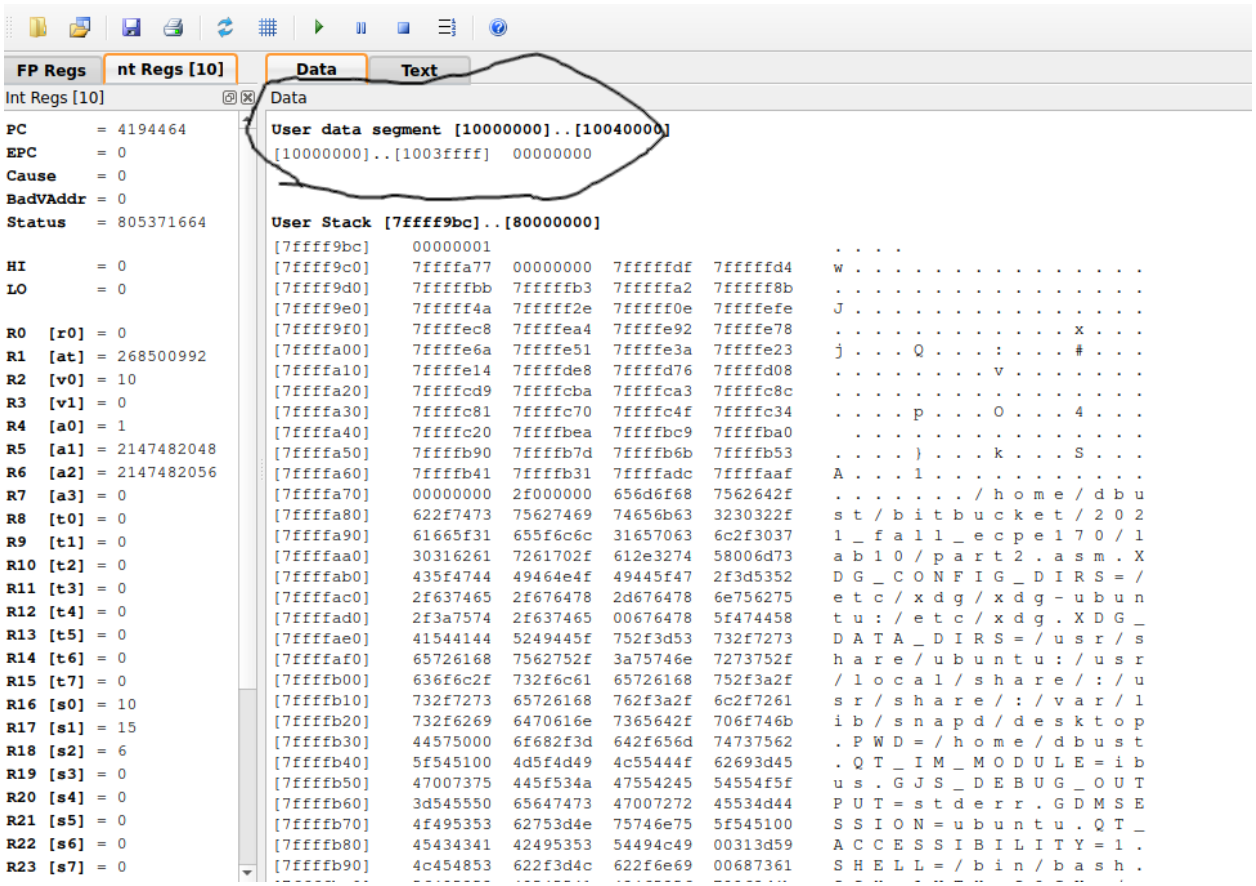
(3)before


FP Regs
nt Regs [10]
Data
Text
Int Regs [10]
Text
PC = 0
EPC = 0
Cause = 0
BadVAddr = 0
Status = 805371664
HI = 0
LO = 0
R0 [r0] = 0
R1 [at] = 0
R2 [v0] = 0
R3 [v1] = 0
R4 [a0] = 0
R5 [a1] = 0
R6 [a2] = 0
R7 [a3] = 0
R8 [t0] = 0
R9 [t1] = 0
R10 [t2] = 0
R11 [t3] = 0
R12 [t4] = 0
R13 [t5] = 0
R14 [t6] = 0
R15 [t7] = 0
R16 [s0] = 0
R17 [s1] = 0
R18 [s2] = 0
R19 [s3] = 0
R20 [s4] = 0
R21 [s5] = 0
R22 [s6] = 0
R23 [s7] = 0
User Text Segment [00400000]..[00440000]
[00400000] 8fa40000 lw $4, 0($29) ; 183: lw $a0 0($sp) # argc
[00400004] 27a50004 addiu $5, $29, 4 ; 184: addiu $a1 $sp 4 # argv
[00400008] 24a60004 addiu $6, $5, 4 ; 185: addiu $a2 $a1 4 # envp
[0040000c] 00041080 sll $2, $4, 2 ; 186: sll $v0 $a0 2
[00400010] 00c23021 addu $6, $6, $2 ; 187: addu $a2 $a2 $v0
[00400014] 0c100009 jal 0x00400024 [main] ; 188: jal main
[00400018] 00000000 nop ; 189: nop
[0040001c] 3402000a ori $2, $0, 10 ; 191: li $v0 10
[00400020] 0000000c syscall ; 192: syscall # syscall 10 (exit)
[00400024] 20100010 addi $16, $0, 16 ; 6: addi $s0, $zero, 16 #s0 A=16;
[00400028] 2011000f addi $17, $0, 15 ; 7: addi $s1, $zero, 15 #s1 B=15;
[0040002c] 20120006 addi $18, $0, 6 ; 8: addi $s2, $zero, 6 #s2 C=6;
[00400030] 20130000 addi $19, $0, 0 ; 9: addi $s3, $zero, 0 #s3 Z=0;
[00400034] 0230082a slt $1, $17, $16 ; 11: bgt $s0, $s1, path1 # if(A > B ||
[00400038] 14200007 bne $1, $0, 28 [path1-0x00400038]
[0040003c] 2a410005 slti $1, $18, 5 ; 12: blt $s2, 5, path1 #C
[00400040] 14200005 bne $1, $0, 20 [path1-0x00400040]
[00400044] 0230082a slt $1, $17, $16 ; 13: bgt $s0, $s1, path2 #else if((A > B)
[00400048] 14200005 bne $1, $0, 20 [path2-0x00400048]
[0040004c] 20130003 addi $19, $0, 3 ; 14: addi $s3, $zero, 3 #else z = 3
[00400050] 0810001c j 0x00400070 [part2] ; 15: j part2
[00400054] 20130001 addi $19, $0, 1 ; 19: addi $s3, $zero, 1 #Z = 1
[00400058] 0810001c j 0x00400070 [part2] ; 20: j part2
[0040005c] 22480001 addi $8, $18, 1 ; 21: addi $t0, $s2, 1 #t0 = C+1
[00400060] 34010007 ori $1, $0, 7 ; 22: beq $t0 , 7 , path22 #&& ((C+1) == 7))
[00400064] 10280002 beq $1, $8, 8 [path22-0x00400064]
[00400068] 08100013 j 0x0040004c [path3] ; 23: j path3
[0040006c] 20130002 addi $19, $0, 2 ; 24: addi $s3, $zero, 2 #Z = 2
[00400070] 34010001 ori $1, $0, 1 ; 26: beq $s3, 1, case1 #switch case 1
[00400074] 10330005 beq $1, $19, 20 [case1-0x00400074]
[00400078] 34010002 ori $1, $0, 2 ; 27: beq $s3, 2, case2 #switch case 2
[0040007c] 10330005 beq $1, $19, 20 [case2-0x0040007c]

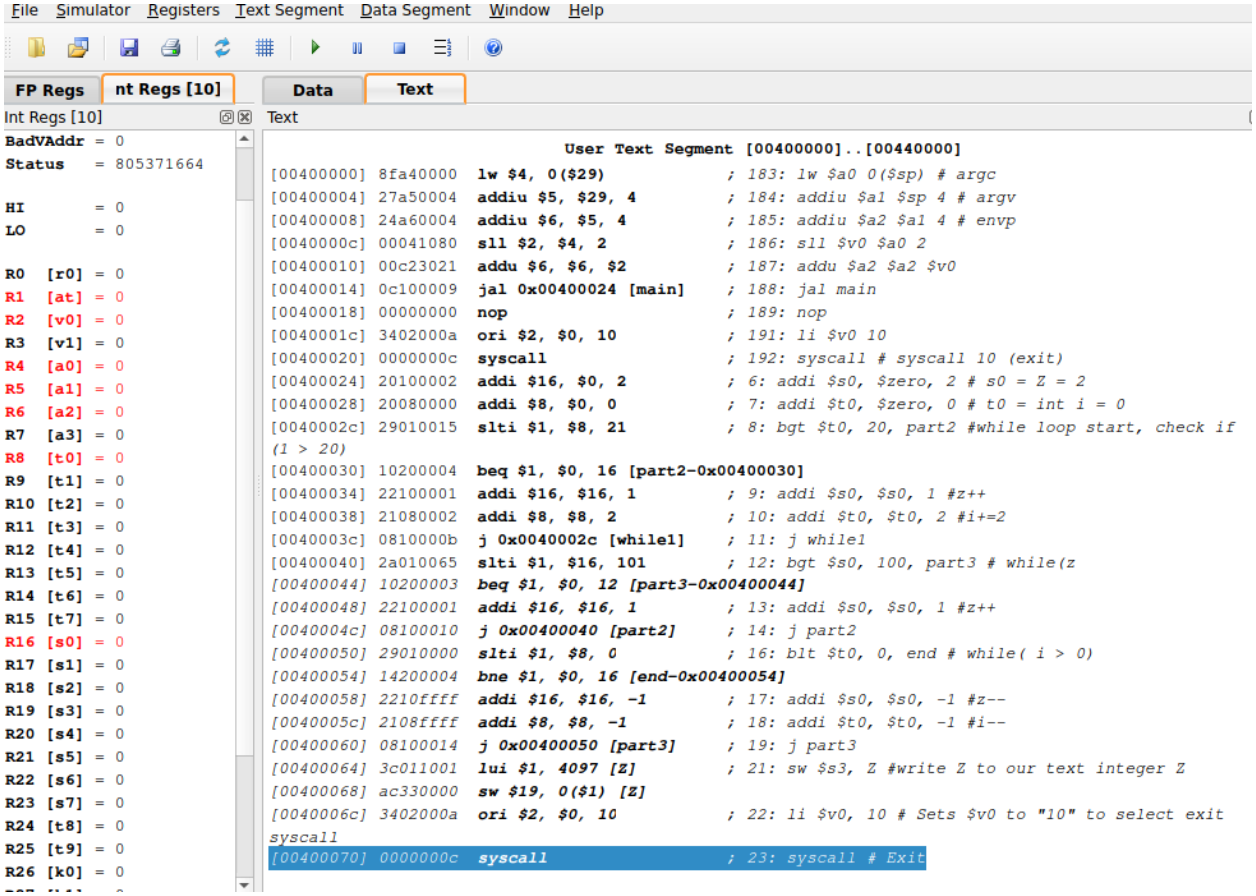

FP Regs
nt Regs [10]
Data
Text
Int Regs [10]
Data
PC = 0
EPC = 0
Cause = 0
BadVAddr = 0
Status = 805371664
HI = 0
LO = 0
R0 [r0] = 0
R1 [at] = 0
R2 [v0] = 0
R3 [v1] = 0
R4 [a0] = 0
R5 [a1] = 0
R6 [a2] = 0
R7 [a3] = 0
R8 [t0] = 0
R9 [t1] = 0
R10 [t2] = 0
R11 [t3] = 0
R12 [t4] = 0
R13 [t5] = 0
R14 [t6] = 0
R15 [t7] = 0
R16 [s0] = 0
R17 [s1] = 0
R18 [s2] = 0
R19 [s3] = 0
R20 [s4] = 0
R21 [s5] = 0
R22 [s6] = 0
R23 [s7] = 0
User data segment [10000000]..[10040000]
[10000000]..[1003ffff] 00000000
User Stack [7ffff9bc]..[80000000]
[7ffff9bc] 00000001 . . . .
[7ffff9c0] 7ffffa77 00000000 7fffffdf 7fffffd4 w . . . . . .
[7ffff9d0] 7fffffbb 7fffffb3 7fffffa2 7fffff8b . . . . . .
[7ffff9e0] 7fffff4a 7fffff2e 7fffff0e 7ffffefe J . . . . . .
[7ffff9f0] 7ffffec8 7ffffea4 7ffffe92 7ffffe78 . . . . . x . . .
[7ffffa00] 7ffffe6a 7ffffe51 7ffffe3a 7ffffe23 j . . . Q . . . : . . . # . . .
[7ffffa10] 7ffffe14 7ffffde8 7ffffd76 7ffffd08 . . . . . v . . . . . .
[7ffffa20] 7ffffcd9 7ffffcba 7ffffca3 7ffffc8c . . . . . .
[7ffffa30] 7ffffc81 7ffffc70 7ffffc4f 7ffffc34 . . . . p . . . O . . . 4 . . .
[7ffffa40] 7ffffc20 7ffffbea 7ffffbc9 7ffffba0 . . . . . .
[7ffffa50] 7ffffb90 7ffffb7d 7ffffb6b 7ffffb53 . . . . } . . . k . . . S . . .
[7ffffa60] 7ffffb41 7ffffb31 7ffffadc 7ffffaaf A . . . 1 . . . . . .
[7ffffa70] 00000000 2f000000 656d6f68 7562642f . . . . . / h o m e / d b u
[7ffffa80] 622f7473 75627469 74656b63 3230322f s t / b i t b u c k e t / 2 0 2
[7ffffa90] 61665f31 655f6c6c 31657063 6c2f3037 1 _ f a l l _ e c p e 1 7 0 / l
[7ffffaa0] 30316261 7261702f 612e3274 58006d73 a b 1 0 / p a r t 2 . a s m . X
[7ffffab0] 435f4744 49464e4f 49445f47 2f3d5352 D G _ C O N F I G _ D I R S = /
[7ffffac0] 2f637465 2f676478 2d676478 6e756275 e t c / x d g / x d g - u b u n
[7ffffad0] 2f3a7574 2f637465 00676478 5f474458 t u : / e t c / x d g . X D G _
[7ffffae0] 41544144 5249445f 752f3d53 732f7273 D A T A _ D I R S = / u s r / s
[7ffffaf0] 65726168 7562752f 3a75746e 7273752f h a r e / u b u n t u : / u s r
[7fffb00] 636f6c2f 732f6c61 65726168 752f3a2f / l o c a l / s h a r e / : / u
[7fffb10] 732f7273 65726168 762f3a2f 6c2f7261 s r / s h a r e / : / v a r / l
[7fffb20] 732f6269 6470616e 7365642f 706f746b i b / s n a p d / d e s k t o p
[7fffb30] 44575000 6f682f3d 642f656d 74737562 . P W D = / h o m e / d b u s t
[7fffb40] 5f545100 4d5f4d49 4c55444f 62693d45 . Q T _ I M _ M O D U L E = i b
[7fffb50] 47007375 445f534a 47554245 54554f5f u s . G J S _ D E B U G _ O U T
[7fffb60] 3d545550 65647473 47007272 45534d44 P U T = s t d e r r . G D M S E
[7fffb70] 4f495353 62753d4e 75746e75 5f545100 S S I O N = u b u n t u . Q T _
[7fffb80] 45434341 42495353 54494c49 00313d59 A C C E S S I B I L I T Y = 1 .
[7fffb90] 4c454853 622f3d4c 622f6e69 00687361 S H E L L = / b i n / b a s h .

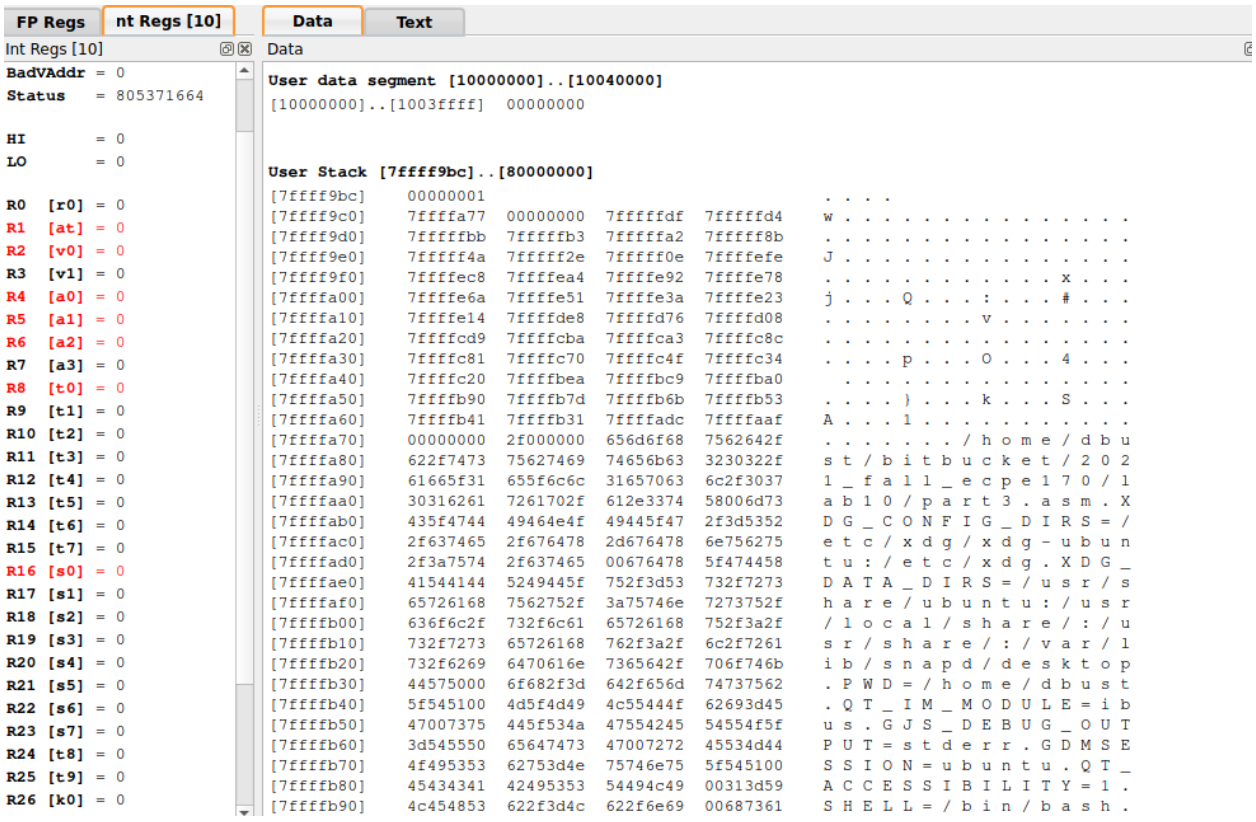
(4) after


FP Regs
nt Regs [10]
Data
Text
Int Regs [10]
Text
PC = 4194464
EPC = 0
Cause = 0
BadVAddr = 0
Status = 805371664
HI = 0
LO = 0
R0 [r0] = 0
R1 [at] = 268500992
R2 [v0] = 10
R3 [v1] = 0
R4 [a0] = 1
R5 [a1] = 2147482048
R6 [a2] = 2147482056
R7 [a3] = 0
R8 [t0] = 0
R9 [t1] = 0
R10 [t2] = 0
R11 [t3] = 0
R12 [t4] = 0
R13 [t5] = 0
R14 [t6] = 0
R15 [t7] = 0
R16 [s0] = 10
R17 [s1] = 15
R18 [s2] = 6
R19 [s3] = 0
R20 [s4] = 0
R21 [s5] = 0
R22 [s6] = 0
R23 [s7] = 0
[00400024] 2010000a addi $16, $0, 10 ; 6: addi $s0, $zero, 10 #s0 A=10;
[00400028] 2011000f addi $17, $0, 15 ; 7: addi $s1, $zero, 15 #s1 B=15;
[0040002c] 20120006 addi $18, $0, 6 ; 8: addi $s2, $zero, 6 #s2 C=6;
[00400030] 20130000 addi $19, $0, 0 ; 9: addi $s3, $zero, 0 #s3 Z=0;
[00400034] 0230082a slt $1, $17, $16 ; 11: bgt $s0, $s1, path1 # if(A > B ||
[00400038] 14200007 bne $1, $0, 28 [path1-0x00400038]
[0040003c] 2a410005 slti $1, $18, 5 ; 12: blt $s2, 5, path1 #C
[00400040] 14200005 bne $1, $0, 20 [path1-0x00400040]
[00400044] 0230082a slt $1, $17, $16 ; 13: bgt $s0, $s1, path2 #else if((A > B)
[00400048] 14200005 bne $1, $0, 20 [path2-0x00400048]
[0040004c] 20130003 addi $19, $0, 3 ; 14: addi $s3, $zero, 3 #else z = 3
[00400050] 0810001c j 0x00400070 [part2] ; 15: j part2
[00400054] 20130001 addi $19, $0, 1 ; 19: addi $s3, $zero, 1 #Z = 1
[00400058] 0810001c j 0x00400070 [part2] ; 20: j part2
[0040005c] 22480001 addi $8, $18, 1 ; 21: addi $t0, $s2, 1 #t0 = C+1
[00400060] 34010007 ori $1, $0, 7 ; 22: beq $t0 , 7 , path22 #&& ((C+1) == 7))
[00400064] 10280002 beq $1, $8, 8 [path22-0x00400064]
[00400068] 08100013 j 0x0040004c [path3] ; 23: j path3
[0040006c] 20130002 addi $19, $0, 2 ; 24: addi $s3, $zero, 2 #Z = 2
[00400070] 34010001 ori $1, $0, 1 ; 26: beq $s3, 1, case1 #switch case 1
[00400074] 10330005 beq $1, $19, 20 [case1-0x00400074]
[00400078] 34010002 ori $1, $0, 2 ; 27: beq $s3, 2, case2 #switch case 2
[0040007c] 10330005 beq $1, $19, 20 [case2-0x0040007c]
[00400080] 20130000 addi $19, $0, 0 ; 28: addi $s3, $zero, 0 #default Z = 0
[00400084] 08100025 j 0x00400094 [end] ; 29: j end
[00400088] 2013ffff addi $19, $0, -1 ; 30: addi $s3, $zero, -1 #Z = -1
[0040008c] 08100025 j 0x00400094 [end] ; 31: j end
[00400090] 2013fffe addi $19, $0, -2 ; 32: addi $s3, $zero, -2 #Z = -2
[00400094] 3c011001 lui $1, 4097 [Z] ; 33: sw $s3, Z
[00400098] ac330000 sw $19, 0($1) [Z]
[0040009c] 3402000a ori $2, $0, 10 ; 34: li $v0, 10 # Sets $v0 to "10" to select exit
syscall
[004000a0] 0000000c syscall ; 35: syscall # Exit

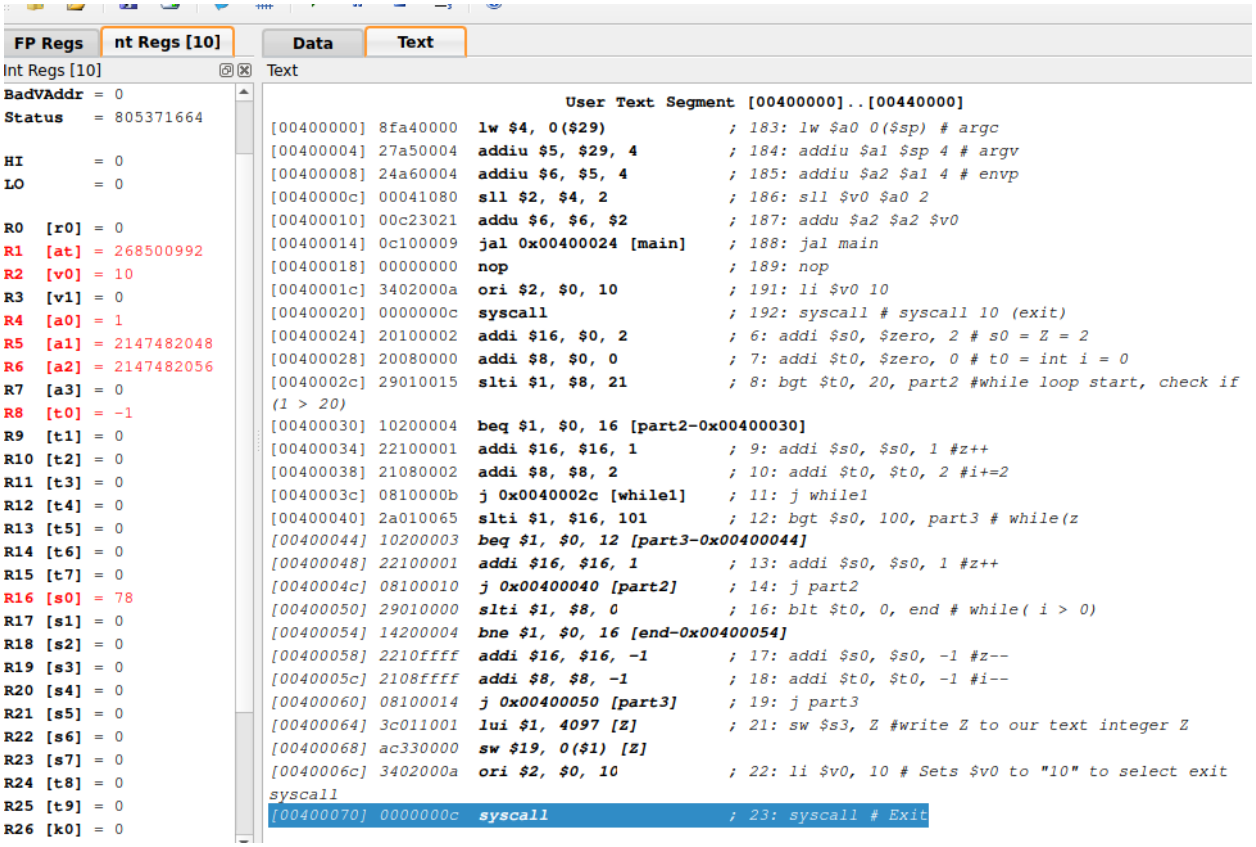

FP Regs
nt Regs [10]
Data
Text
Int Regs [10]
Data
PC = 4194464
EPC = 0
Cause = 0
BadVAddr = 0
Status = 805371664
HI = 0
LO = 0
R0 [r0] = 0
R1 [at] = 268500992
R2 [v0] = 10
R3 [v1] = 0
R4 [a0] = 1
R5 [a1] = 2147482048
R6 [a2] = 2147482056
R7 [a3] = 0
R8 [t0] = 0
R9 [t1] = 0
R10 [t2] = 0
R11 [t3] = 0
R12 [t4] = 0
R13 [t5] = 0
R14 [t6] = 0
R15 [t7] = 0
R16 [s0] = 10
R17 [s1] = 15
R18 [s2] = 6
R19 [s3] = 0
R20 [s4] = 0
R21 [s5] = 0
R22 [s6] = 0
R23 [s7] = 0
User data segment [10000000]..[10040000]
[10000000]..[1003ffff] 00000000
User Stack [7ffff9bc]..[80000000]
[7ffff9bc] 00000001
[7ffff9c0] 7fffa77 00000000 7fffffdf 7fffffd4 w . . . . . .
[7ffff9d0] 7fffffbb 7fffffb3 7fffffa2 7fffff8b . . . . . .
[7ffff9e0] 7fffff4a 7fffff2e 7fffff0e 7ffffefe J . . . . . .
[7ffff9f0] 7ffffec8 7ffffea4 7ffffe92 7ffffe78 . . . . . x . . .
[7ffffa00] 7ffffe6a 7ffffe51 7ffffe3a 7ffffe23 j . . . Q . . . : . . . # . . .
[7ffffa10] 7ffffe14 7ffffde8 7ffffd76 7ffffd08 . . . . . v . . . . . .
[7ffffa20] 7ffffcd9 7ffffcba 7ffffca3 7ffffc8c . . . . . .
[7ffffa30] 7ffffc81 7ffffc70 7ffffc4f 7ffffc34 . . . . p . . . O . . . 4 . . .
[7ffffa40] 7ffffc20 7ffffbea 7ffffbc9 7ffffba0 . . . . . .
[7ffffa50] 7ffffb90 7ffffb7d 7ffffb6b 7ffffb53 . . . . } . . . k . . . S . . .
[7ffffa60] 7ffffb41 7ffffb31 7ffffadc 7ffffaaf A . . . 1 . . . . . .
[7ffffa70] 00000000 2f000000 656d6f68 7562642f . . . . . / h o m e / d b u
[7ffffa80] 622f7473 75627469 74656b63 3230322f s t / b i t b u c k e t / 2 0 2
[7ffffa90] 61665f31 655f6c6c 31657063 6c2f3037 1 _ f a l l _ e c p e 1 7 0 / 1
[7ffffaa0] 30316261 7261702f 612e3274 58006d73 a b 1 0 / p a r t 2 . a s m . X
[7ffffab0] 435f4744 49464e4f 49445f47 2f3d5352 D G _ C O N F I G _ D I R S = /
[7ffffac0] 2f637465 2f676478 2d676478 6e756275 e t c / x d g / x d g - u b u n
[7ffffad0] 2f3a7574 2f637465 00676478 5f474458 t u : / e t c / x d g . X D G _
[7ffffae0] 41544144 5249445f 752f3d53 732f7273 D A T A _ D I R S = / u s r / s
[7ffffaf0] 65726168 7562752f 3a75746e 7273752f h a r e / u b u n t u : / u s r
[7ffffb00] 636f6c2f 732f6c61 65726168 752f3a2f / l o c a l / s h a r e / : / u
[7ffffb10] 732f7273 65726168 762f3a2f 6c2f7261 s r / s h a r e / : / v a r / l
[7ffffb20] 732f6269 6470616e 7365642f 706f746b i b / s n a p d / d e s k t o p
[7ffffb30] 44575000 6f682f3d 642f656d 74737562 . P W D = / h o m e / d b u s t
[7ffffb40] 5f545100 4d5f4d49 4c55444f 62693d45 . Q T _ I M _ M O D U L E = i b
[7ffffb50] 47007375 445f534a 47554245 54554f5f u s . G J S _ D E B U G _ O U T
[7ffffb60] 3d545550 65647473 47007272 45534d44 P U T = s t d e r r . G D M S E
[7ffffb70] 4f495353 62753d4e 75746e75 5f545100 S S I O N = u b u n t u . Q T _
[7ffffb80] 45434341 42495353 54494c49 00313d59 A C C E S S I B I L I T Y = 1 .
[7ffffb90] 4c454853 622f3d4c 622f6e69 00687361 S H E L L = / b i n / b a s h .

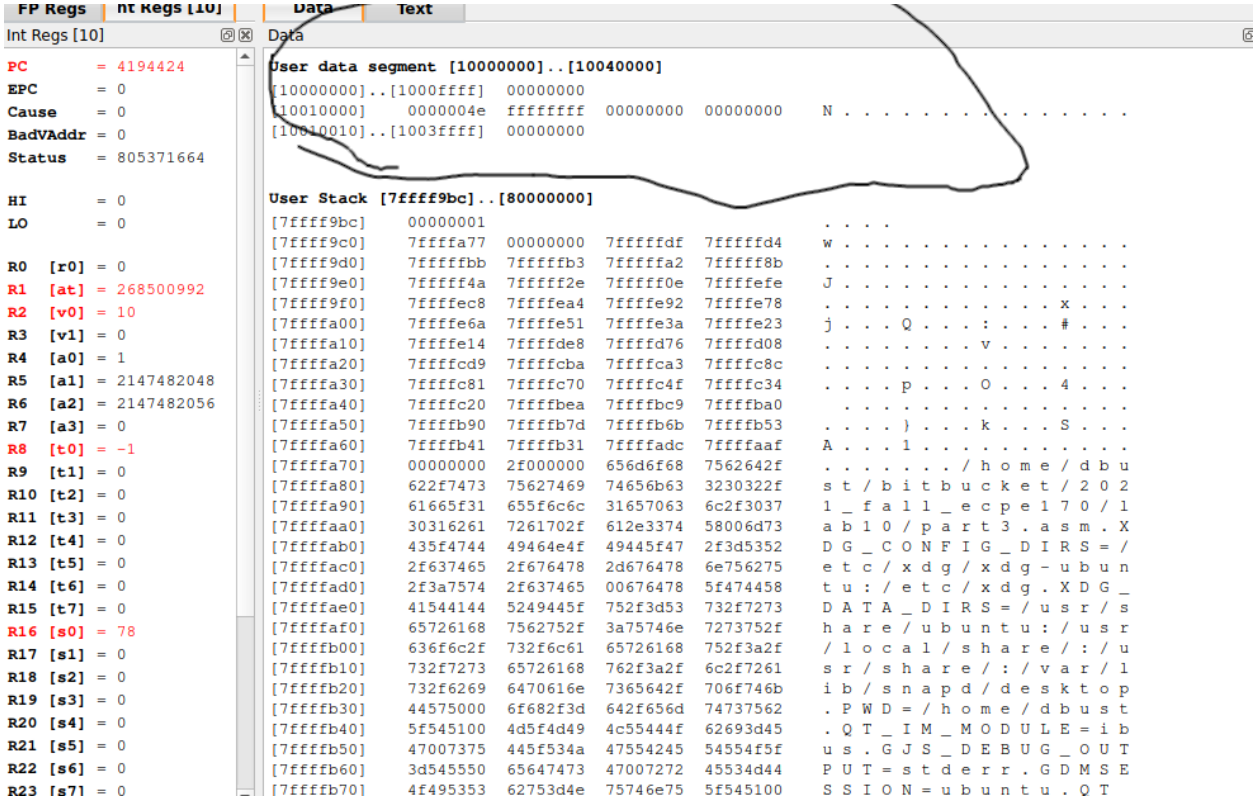
(5)before


File Simulator Registers Text Segment Data Segment Window Help
FP Regs
nt Regs [10]
Data
Text
Int Regs [10]
BadVAddr = 0
Status = 805371664
HI = 0
LO = 0
R0 [r0] = 0
R1 [at] = 0
R2 [v0] = 0
R3 [v1] = 0
R4 [a0] = 0
R5 [a1] = 0
R6 [a2] = 0
R7 [a3] = 0
R8 [t0] = 0
R9 [t1] = 0
R10 [t2] = 0
R11 [t3] = 0
R12 [t4] = 0
R13 [t5] = 0
R14 [t6] = 0
R15 [t7] = 0
R16 [s0] = 0
R17 [s1] = 0
R18 [s2] = 0
R19 [s3] = 0
R20 [s4] = 0
R21 [s5] = 0
R22 [s6] = 0
R23 [s7] = 0
R24 [t8] = 0
R25 [t9] = 0
R26 [k0] = 0
Text
User Text Segment [00400000]..[00440000]
[00400000] 8fa40000 lw $4, 0($29) ; 183: lw $a0 0($sp) # argc
[00400004] 27a50004 addiu $5, $29, 4 ; 184: addiu $a1 $sp 4 # argv
[00400008] 24a60004 addiu $6, $5, 4 ; 185: addiu $a2 $a1 4 # envp
[0040000c] 00041080 sll $2, $4, 2 ; 186: sll $v0 $a0 2
[00400010] 00c23021 addu $6, $6, $2 ; 187: addu $a2 $a2 $v0
[00400014] 0c100009 jal 0x00400024 [main] ; 188: jal main
[00400018] 00000000 nop ; 189: nop
[0040001c] 3402000a ori $2, $0, 10 ; 191: li $v0 10
[00400020] 0000000c syscall ; 192: syscall # syscall 10 (exit)
[00400024] 20100002 addi $16, $0, 2 ; 6: addi $s0, $zero, 2 # s0 = Z = 2
[00400028] 20080000 addi $8, $0, 0 ; 7: addi $t0, $zero, 0 # t0 = int i = 0
[0040002c] 29010015 slti $1, $8, 21 ; 8: bgt $t0, 20, part2 #while loop start, check if (1 > 20)
[00400030] 10200004 beq $1, $0, 16 [part2-0x00400030]
[00400034] 22100001 addi $16, $16, 1 ; 9: addi $s0, $s0, 1 #z++
[00400038] 21080002 addi $8, $8, 2 ; 10: addi $t0, $t0, 2 #i+=2
[0040003c] 0810000b j 0x0040002c [while1] ; 11: j while1
[00400040] 2a010065 slti $1, $16, 101 ; 12: bgt $s0, 100, part3 # while(z
[00400044] 10200003 beq $1, $0, 12 [part3-0x00400044]
[00400048] 22100001 addi $16, $16, 1 ; 13: addi $s0, $s0, 1 #z++
[0040004c] 08100010 j 0x00400040 [part2] ; 14: j part2
[00400050] 29010000 slti $1, $8, 0 ; 16: blt $t0, 0, end # while(i > 0)
[00400054] 14200004 bne $1, $0, 16 [end-0x00400054]
[00400058] 2210ffff addi $16, $16, -1 ; 17: addi $s0, $s0, -1 #z--
[0040005c] 2108ffff addi $8, $8, -1 ; 18: addi $t0, $t0, -1 #i--
[00400060] 08100014 j 0x00400050 [part3] ; 19: j part3
[00400064] 3c011001 lui $1, 4097 [Z] ; 21: sw $s3, Z #write Z to our text integer Z
[00400068] ac330000 sw $19, 0($1) [Z]
[0040006c] 3402000a ori $2, $0, 10 ; 22: li $v0, 10 # Sets $v0 to "10" to select exit syscall
[00400070] 0000000c syscall ; 23: syscall # Exit

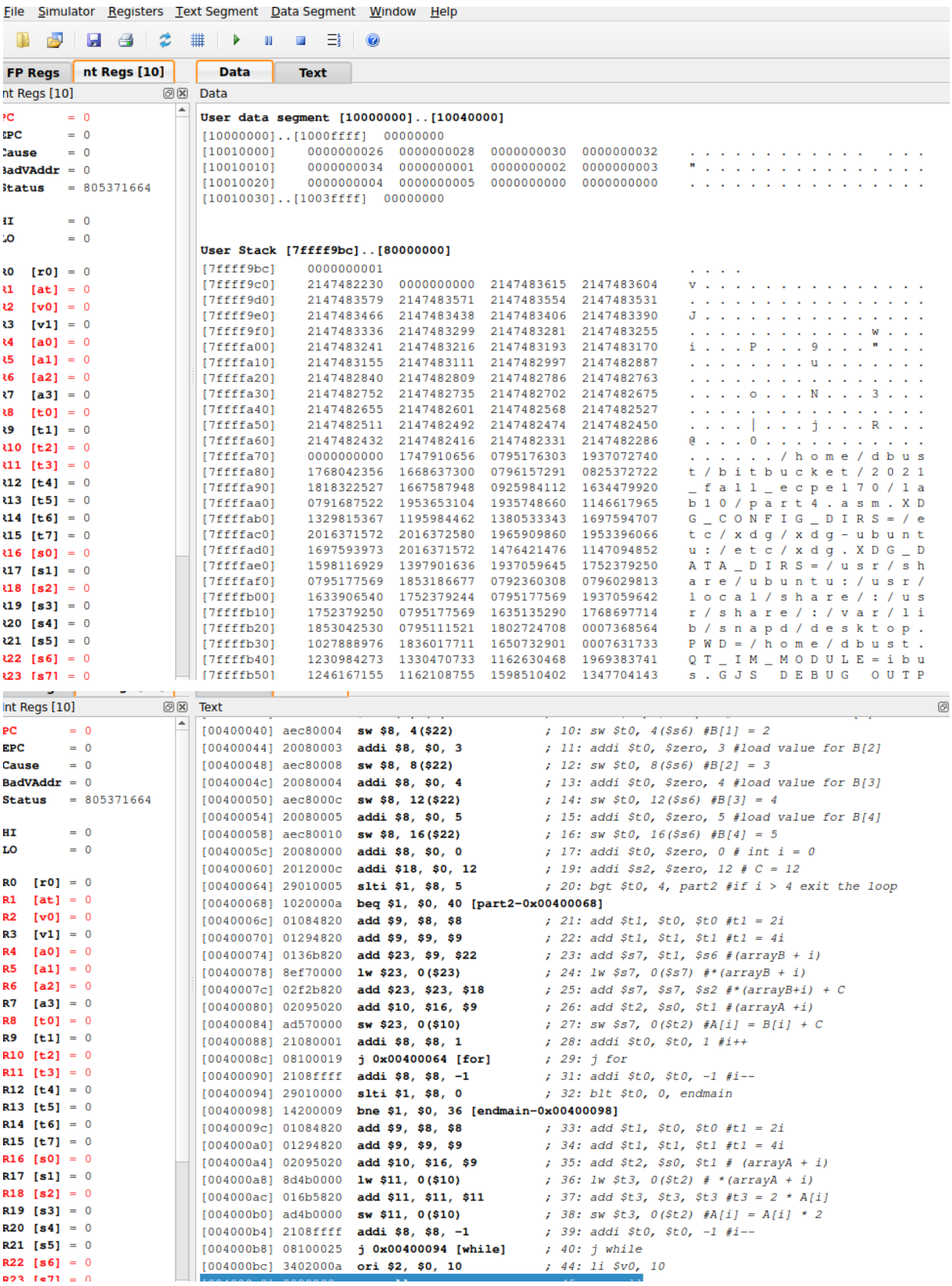

FP Regs
nt Regs [10]
Data
Text
Int Regs [10]
BadVAddr = 0
Status = 805371664
HI = 0
LO = 0
R0 [r0] = 0
R1 [at] = 0
R2 [v0] = 0
R3 [v1] = 0
R4 [a0] = 0
R5 [a1] = 0
R6 [a2] = 0
R7 [a3] = 0
R8 [t0] = 0
R9 [t1] = 0
R10 [t2] = 0
R11 [t3] = 0
R12 [t4] = 0
R13 [t5] = 0
R14 [t6] = 0
R15 [t7] = 0
R16 [s0] = 0
R17 [s1] = 0
R18 [s2] = 0
R19 [s3] = 0
R20 [s4] = 0
R21 [s5] = 0
R22 [s6] = 0
R23 [s7] = 0
R24 [t8] = 0
R25 [t9] = 0
R26 [k0] = 0
Data
User data segment [10000000]..[10040000]
[10000000]..[1003ffff] 00000000
User Stack [7ffff9bc]..[80000000]
[7ffff9bc] 00000001
[7ffff9c0] 7ffffa77 00000000 7fffffdf 7fffffd4 w . . . . . .
[7ffff9d0] 7fffffbb 7fffffb3 7fffffa2 7fffff8b . . . . . .
[7ffff9e0] 7fffff4a 7fffff2e 7fffff0e 7ffffefe J . . . . . .
[7ffff9f0] 7ffffec8 7ffffea4 7ffffe92 7ffffe78 . . . . . x . . .
[7ffffa00] 7ffffe6a 7ffffe51 7ffffe3a 7ffffe23 j . . . Q . . . : . . . # . . .
[7ffffa10] 7ffffe14 7ffffde8 7ffffd76 7ffffd08 . . . . . v . . . . . .
[7ffffa20] 7ffffcd9 7ffffcba 7ffffca3 7ffffc8c . . . . . .
[7ffffa30] 7ffffc81 7ffffc70 7ffffc4f 7ffffc34 . . . . p . . . O . . . 4 . . .
[7ffffa40] 7ffffc20 7ffffbea 7ffffbc9 7ffffba0 . . . . . .
[7ffffa50] 7ffffb90 7ffffb7d 7ffffb6b 7ffffb53 . . . . } . . . k . . . S . . .
[7ffffa60] 7ffffb41 7ffffb31 7ffffadc 7ffffaaf A . . . 1 . . . . . .
[7ffffa70] 00000000 2f000000 656d6f68 7562642f . . . . . / h o m e / d b u
[7ffffa80] 622f7473 75627469 74656b63 3230322f s t / b i t b u c k e t / 2 0 2
[7ffffa90] 61665f31 655f6c6c 31657063 6c2f3037 1 _ f a l l _ e c p e 1 7 0 / 1
[7ffffaa0] 30316261 7261702f 612e3374 58006d73 a b 1 0 / p a r t 3 . a s m . X
[7ffffab0] 435f4744 49464e4f 49445f47 2f3d5352 D G _ C O N F I G _ D I R S = /
[7ffffac0] 2f637465 2f676478 2d676478 6e756275 e t c / x d g / x d g - u b u n
[7ffffad0] 2f3a7574 2f637465 00676478 5f474458 t u : / e t c / x d g . X D G _
[7ffffae0] 41544144 5249445f 752f3d53 732f7273 D A T A _ D I R S = / u s r / s
[7ffffaf0] 65726168 7562752f 3a75746e 7273752f h a r e / u b u n t u : / u s r
[7ffffb00] 636f6c2f 732f6c61 65726168 752f3a2f / l o c a l / s h a r e / : / u
[7ffffb10] 732f7273 65726168 762f3a2f 6c2f7261 s r / s h a r e / : / v a r / l
[7ffffb20] 732f6269 6470616e 7365642f 706f746b i b / s n a p d / d e s k t o p
[7ffffb30] 44575000 6f682f3d 642f656d 74737562 . P W D = / h o m e / d b u s t
[7ffffb40] 5f545100 4d5f4d49 4c55444f 62693d45 . Q T _ I M _ M O D U L E = i b
[7ffffb50] 47007375 445f534a 47554245 54554f5f u s . G J S _ D E B U G _ O U T
[7ffffb60] 3d545550 65647473 47007272 45534d44 P U T = s t d e r r . G D M S E
[7ffffb70] 4f495353 62753d4e 75746e75 5f545100 S S I O N = u b u n t u . Q T _
[7ffffb80] 45434341 42495353 54494c49 00313d59 A C C E S S I B I L I T Y = 1 .
[7ffffb90] 4c454853 622f3d4c 622f6e69 00687361 S H E L L = / b i n / b a s h .

(6) after

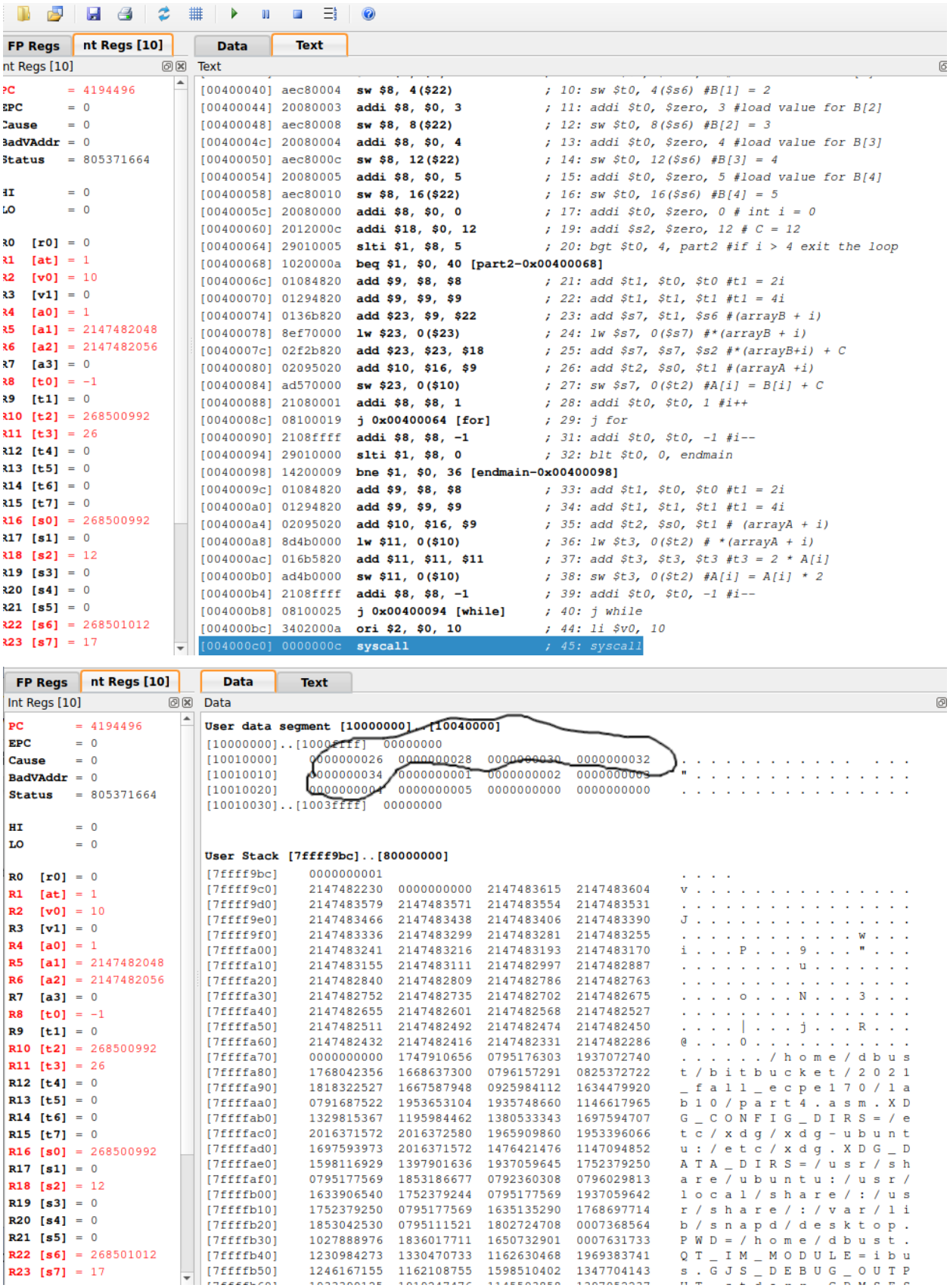

FP Regs
nt Regs [10]
Data
Text
Int Regs [10]
Text
BadVAddr = 0
Status = 805371664
HI = 0
LO = 0
R0 [r0] = 0
R1 [at] = 268500992
R2 [v0] = 10
R3 [v1] = 0
R4 [a0] = 1
R5 [a1] = 2147482048
R6 [a2] = 2147482056
R7 [a3] = 0
R8 [t0] = -1
R9 [t1] = 0
R10 [t2] = 0
R11 [t3] = 0
R12 [t4] = 0
R13 [t5] = 0
R14 [t6] = 0
R15 [t7] = 0
R16 [s0] = 78
R17 [s1] = 0
R18 [s2] = 0
R19 [s3] = 0
R20 [s4] = 0
R21 [s5] = 0
R22 [s6] = 0
R23 [s7] = 0
R24 [t8] = 0
R25 [t9] = 0
R26 [k0] = 0
User Text Segment [00400000]..[00440000]
[00400000] 8fa40000 lw $4, 0($29) ; 183: lw $a0 0($sp) # argc
[00400004] 27a50004 addiu $5, $29, 4 ; 184: addiu $a1 $sp 4 # argv
[00400008] 24a60004 addiu $6, $5, 4 ; 185: addiu $a2 $a1 4 # envp
[0040000c] 00041080 sll $2, $4, 2 ; 186: sll $v0 $a0 2
[00400010] 00c23021 addu $6, $6, $2 ; 187: addu $a2 $a2 $v0
[00400014] 0c100009 jal 0x00400024 [main] ; 188: jal main
[00400018] 00000000 nop ; 189: nop
[0040001c] 3402000a ori $2, $0, 10 ; 191: li $v0 10
[00400020] 0000000c syscall ; 192: syscall # syscall 10 (exit)
[00400024] 20100002 addi $16, $0, 2 ; 6: addi $s0, $zero, 2 # s0 = Z = 2
[00400028] 20080000 addi $8, $0, 0 ; 7: addi $t0, $zero, 0 # t0 = int i = 0
[0040002c] 29010015 slti $1, $8, 21 ; 8: bgt $t0, 20, part2 #while loop start, check if (1 > 20)
[00400030] 10200004 beq $1, $0, 16 [part2-0x00400030]
[00400034] 22100001 addi $16, $16, 1 ; 9: addi $s0, $s0, 1 #z++
[00400038] 21080002 addi $8, $8, 2 ; 10: addi $t0, $t0, 2 #i+=2
[0040003c] 0810000b j 0x0040002c [while1] ; 11: j while1
[00400040] 2a010065 slti $1, $16, 101 ; 12: bgt $s0, 100, part3 # while(z
[00400044] 10200003 beq $1, $0, 12 [part3-0x00400044]
[00400048] 22100001 addi $16, $16, 1 ; 13: addi $s0, $s0, 1 #z++
[0040004c] 08100010 j 0x00400040 [part2] ; 14: j part2
[00400050] 29010000 slti $1, $8, 0 ; 16: blt $t0, 0, end # while(i > 0)
[00400054] 14200004 bne $1, $0, 16 [end-0x00400054]
[00400058] 2210ffff addi $16, $16, -1 ; 17: addi $s0, $s0, -1 #z--
[0040005c] 2108ffff addi $8, $8, -1 ; 18: addi $t0, $t0, -1 #i--
[00400060] 08100014 j 0x00400050 [part3] ; 19: j part3
[00400064] 3c011001 lui $1, 4097 [Z] ; 21: sw $s3, Z #write Z to our text integer Z
[00400068] ac330000 sw $19, 0($1) [Z]
[0040006c] 3402000a ori $2, $0, 10 ; 22: li $v0, 10 # Sets $v0 to "10" to select exit syscall
[00400070] 0000000c syscall ; 23: syscall # Exit


FP Regs
Int Regs [10]
Data
Text
Int Regs [10]
PC = 4194424
EPC = 0
Cause = 0
BadVAddr = 0
Status = 805371664
HI = 0
LO = 0
R0 [r0] = 0
R1 [at] = 268500992
R2 [v0] = 10
R3 [v1] = 0
R4 [a0] = 1
R5 [a1] = 2147482048
R6 [a2] = 2147482056
R7 [a3] = 0
R8 [t0] = -1
R9 [t1] = 0
R10 [t2] = 0
R11 [t3] = 0
R12 [t4] = 0
R13 [t5] = 0
R14 [t6] = 0
R15 [t7] = 0
R16 [s0] = 78
R17 [s1] = 0
R18 [s2] = 0
R19 [s3] = 0
R20 [s4] = 0
R21 [s5] = 0
R22 [s6] = 0
R23 [s7] = 0
Data
User data segment [10000000]..[10040000]
[10000000]..[1000ffff] 00000000
[10010000] 0000004e ffffffff 00000000 00000000 N . . . . . .
[10010010]..[1003ffff] 00000000
User Stack [7ffff9bc]..[80000000]
[7ffff9bc] 00000001 . . . .
[7ffff9c0] 7ffffa77 00000000 7fffffdf 7fffffd4 w . . . . . .
[7ffff9d0] 7fffffbb 7fffffb3 7fffffa2 7fffff8b . . . . . .
[7ffff9e0] 7fffff4a 7fffff2e 7fffff0e 7ffffefe J . . . . . .
[7ffff9f0] 7ffffec8 7ffffea4 7ffffe92 7ffffe78 . . . . . x . . .
[7ffffa00] 7ffffe6a 7ffffe51 7ffffe3a 7ffffe23 j . . . Q . . . : . . . # . . .
[7ffffa10] 7ffffe14 7ffffde8 7ffffd76 7ffffd08 . . . . . v . . . . . .
[7ffffa20] 7ffffcd9 7ffffcba 7ffffca3 7ffffc8c . . . . . .
[7ffffa30] 7ffffc81 7ffffc70 7ffffc4f 7ffffc34 . . . . p . . . O . . . 4 . . .
[7ffffa40] 7ffffc20 7ffffbea 7ffffbc9 7ffffba0 . . . . . .
[7ffffa50] 7ffffb90 7ffffb7d 7ffffb6b 7ffffb53 . . . . } . . . k . . . S . . .
[7ffffa60] 7ffffb41 7ffffb31 7ffffadc 7ffffaaf A . . . 1 . . . . . .
[7ffffa70] 00000000 2f000000 656d6f68 7562642f . . . . . / h o m e / d b u
[7ffffa80] 622f7473 75627469 74656b63 3230322f s t / b i t b u c k e t / 2 0 2
[7ffffa90] 61665f31 655f6c6c 31657063 6c2f3037 1 _ f a l l _ e c p e 1 7 0 / 1
[7ffffaa0] 30316261 7261702f 612e3374 58006d73 a b 1 0 / p a r t 3 . a s m . X
[7ffffab0] 435f4744 49464e4f 49445f47 2f3d5352 D G _ C O N F I G _ D I R S = /
[7ffffac0] 2f637465 2f676478 2d676478 6e756275 e t c / x d g / x d g - u b u n
[7ffffad0] 2f3a7574 2f637465 00676478 5f474458 t u : / e t c / x d g . X D G _
[7ffffae0] 41544144 5249445f 752f3d53 732f7273 D A T A _ D I R S = / u s r / s
[7ffffaf0] 65726168 7562752f 3a75746e 7273752f h a r e / u b u n t u : / u s r
[7fffb00] 636f6c2f 732f6c61 65726168 752f3a2f / l o c a l / s h a r e / : / u
[7fffb10] 732f7273 65726168 762f3a2f 6c2f7261 s r / s h a r e / : / v a r / l
[7fffb20] 732f6269 6470616e 7365642f 706f746b i b / s n a p d / d e s k t o p
[7fffb30] 44575000 6f682f3d 642f656d 74737562 . P W D = / h o m e / d b u s t
[7fffb40] 5f545100 4d5f4d49 4c55444f 62693d45 . Q T _ I M _ M O D U L E = i b
[7fffb50] 47007375 445f534a 47554245 54554f5f u s . G J S _ D E B U G _ O U T
[7fffb60] 3d545550 65647473 47007272 45534d44 P U T = s t d e r r . G D M S E
[7fffb70] 4f495353 62753d4e 75746e75 5f545100 S S I O N = u b u n t u . Q T

(7)before:


File Simulator Registers Text Segment Data Segment Window Help
FP Regs
nt Regs [10]
Data
Text
nt Regs [10]
PC = 0
EPC = 0
Cause = 0
BadVAddr = 0
Status = 805371664
HI = 0
LO = 0
R0 [r0] = 0
R1 [at] = 0
R2 [v0] = 0
R3 [v1] = 0
R4 [a0] = 0
R5 [a1] = 0
R6 [a2] = 0
R7 [a3] = 0
R8 [t0] = 0
R9 [t1] = 0
R10 [t2] = 0
R11 [t3] = 0
R12 [t4] = 0
R13 [t5] = 0
R14 [t6] = 0
R15 [t7] = 0
R16 [s0] = 0
R17 [s1] = 0
R18 [s2] = 0
R19 [s3] = 0
R20 [s4] = 0
R21 [s5] = 0
R22 [s6] = 0
Data
User data segment [10000000]..[10040000]
[10000000]..[1000ffff] 00000000
[10010000] 0000000026 0000000028 0000000030 0000000032
[10010010] 0000000034 0000000001 0000000002 0000000003
[10010020] 0000000004 0000000005 0000000000 0000000000
[10010030]..[1003ffff] 00000000
User Stack [7ffff9bc]..[80000000]
[7ffff9bc] 0000000001
[7ffff9c0] 2147482230 0000000000 2147483615 2147483604
[7ffff9d0] 2147483579 2147483571 2147483554 2147483531
[7ffff9e0] 2147483466 2147483438 2147483406 2147483390
[7ffff9f0] 2147483336 2147483299 2147483281 2147483255
[7ffffa00] 2147483241 2147483216 2147483193 2147483170
[7ffffa10] 2147483155 2147483111 2147482997 2147482887
[7ffffa20] 2147482840 2147482809 2147482786 2147482763
[7ffffa30] 2147482752 2147482735 2147482702 2147482675
[7ffffa40] 2147482655 2147482601 2147482568 2147482527
[7ffffa50] 2147482511 2147482492 2147482474 2147482450
[7ffffa60] 2147482432 2147482416 2147482331 2147482286
[7ffffa70] 0000000000 1747910656 0795176303 1937072740
[7ffffa80] 1768042356 1668637300 0796157291 0825372722
[7ffffa90] 1818322527 1667587948 0925984112 1634479920
[7ffffaa0] 0791687522 1953653104 1935748660 1146617965
[7ffffab0] 1329815367 1195984462 1380533343 1697594707
[7ffffac0] 2016371572 2016372580 1965909860 1953396066
[7ffffad0] 1697593973 2016371572 1476421476 1147094852
[7ffffae0] 1598116929 1397901636 1937059645 1752379250
[7ffffaf0] 0795177569 1853186677 0792360308 0796029813
[7ffffb00] 1633906540 1752379244 0795177569 1937059642
[7ffffb10] 1752379250 0795177569 1635135290 1768697714
[7ffffb20] 1853042530 0795111521 1802724708 0007368564
[7ffffb30] 1027888976 1836017711 1650732901 0007631733
[7ffffb40] 1230984273 1330470733 1162630468 1969383741
[7ffffb50] 1246167155 1162108755 1598510402 1347704143
Text
[00400040] aec80004 sw $8, 4($22) ; 10: sw $t0, 4($s6) #B[1] = 2
[00400044] 20080003 addi $8, $0, 3 ; 11: addi $t0, $zero, 3 #load value for B[2]
[00400048] aec80008 sw $8, 8($22) ; 12: sw $t0, 8($s6) #B[2] = 3
[0040004c] 20080004 addi $8, $0, 4 ; 13: addi $t0, $zero, 4 #load value for B[3]
[00400050] aec8000c sw $8, 12($22) ; 14: sw $t0, 12($s6) #B[3] = 4
[00400054] 20080005 addi $8, $0, 5 ; 15: addi $t0, $zero, 5 #load value for B[4]
[00400058] aec80010 sw $8, 16($22) ; 16: sw $t0, 16($s6) #B[4] = 5
[0040005c] 20080000 addi $8, $0, 0 ; 17: addi $t0, $zero, 0 # int i = 0
[00400060] 2012000c addi $18, $0, 12 ; 19: addi $s2, $zero, 12 # C = 12
[00400064] 29010005 slti $1, $8, 5 ; 20: bgt $t0, 4, part2 #if i > 4 exit the loop
[00400068] 1020000a beq $1, $0, 40 [part2-0x00400068]
[0040006c] 01084820 add $9, $8, $8 ; 21: add $t1, $t0, $t0 #t1 = 2i
[00400070] 01294820 add $9, $9, $9 ; 22: add $t1, $t1, $t1 #t1 = 4i
[00400074] 0136b820 add $23, $9, $22 ; 23: add $s7, $t1, $s6 #(arrayB + i)
[00400078] 8ef70000 lw $23, 0($23) ; 24: lw $s7, 0($s7) #*(arrayB + i)
[0040007c] 02f2b820 add $23, $23, $18 ; 25: add $s7, $s7, $s2 #*(arrayB+i) + C
[00400080] 02095020 add $10, $16, $9 ; 26: add $t2, $s0, $t1 #(arrayA +i)
[00400084] ad570000 sw $23, 0($10) ; 27: sw $s7, 0($t2) #A[i] = B[i] + C
[00400088] 21080001 addi $8, $8, 1 ; 28: addi $t0, $t0, 1 #i++
[0040008c] 08100019 j 0x00400064 [for] ; 29: j for
[00400090] 2108ffff addi $8, $8, -1 ; 31: addi $t0, $t0, -1 #i--
[00400094] 29010000 slti $1, $8, 0 ; 32: blt $t0, 0, endmain
[00400098] 14200009 bne $1, $0, 36 [endmain-0x00400098]
[0040009c] 01084820 add $9, $8, $8 ; 33: add $t1, $t0, $t0 #t1 = 2i
[004000a0] 01294820 add $9, $9, $9 ; 34: add $t1, $t1, $t1 #t1 = 4i
[004000a4] 02095020 add $10, $16, $9 ; 35: add $t2, $s0, $t1 # (arrayA + i)
[004000a8] 8d4b0000 lw $11, 0($10) ; 36: lw $t3, 0($t2) # *(arrayA + i)
[004000ac] 016b5820 add $11, $11, $11 ; 37: add $t3, $t3, $t3 #t3 = 2 * A[i]
[004000b0] ad4b0000 sw $11, 0($10) ; 38: sw $t3, 0($t2) #A[i] = A[i] * 2
[004000b4] 2108ffff addi $8, $8, -1 ; 39: addi $t0, $t0, -1 #i--
[004000b8] 08100025 j 0x00400094 [while] ; 40: j while
[004000bc] 3402000a ori $2, $0, 10 ; 44: li $v0, 10

(8) after:


FP Regs
nt Regs [10]
Data
Text
nt Regs [10]
Text
PC = 4194496
EPC = 0
Cause = 0
BadVAddr = 0
Status = 805371664
HI = 0
LO = 0
R0 [r0] = 0
R1 [at] = 1
R2 [v0] = 10
R3 [v1] = 0
R4 [a0] = 1
R5 [a1] = 2147482048
R6 [a2] = 2147482056
R7 [a3] = 0
R8 [t0] = -1
R9 [t1] = 0
R10 [t2] = 268500992
R11 [t3] = 26
R12 [t4] = 0
R13 [t5] = 0
R14 [t6] = 0
R15 [t7] = 0
R16 [s0] = 268500992
R17 [s1] = 0
R18 [s2] = 12
R19 [s3] = 0
R20 [s4] = 0
R21 [s5] = 0
R22 [s6] = 268501012
R23 [s7] = 17
[00400040] aec80004 sw $8, 4($22) ; 10: sw $t0, 4($s6) #B[1] = 2
[00400044] 20080003 addi $8, $0, 3 ; 11: addi $t0, $zero, 3 #load value for B[2]
[00400048] aec80008 sw $8, 8($22) ; 12: sw $t0, 8($s6) #B[2] = 3
[0040004c] 20080004 addi $8, $0, 4 ; 13: addi $t0, $zero, 4 #load value for B[3]
[00400050] aec8000c sw $8, 12($22) ; 14: sw $t0, 12($s6) #B[3] = 4
[00400054] 20080005 addi $8, $0, 5 ; 15: addi $t0, $zero, 5 #load value for B[4]
[00400058] aec80010 sw $8, 16($22) ; 16: sw $t0, 16($s6) #B[4] = 5
[0040005c] 20080000 addi $8, $0, 0 ; 17: addi $t0, $zero, 0 # int i = 0
[00400060] 2012000c addi $18, $0, 12 ; 19: addi $s2, $zero, 12 # C = 12
[00400064] 29010005 slti $1, $8, 5 ; 20: bgt $t0, 4, part2 #if i > 4 exit the loop
[00400068] 1020000a beq $1, $0, 40 [part2-0x00400068]
[0040006c] 01084820 add $9, $8, $8 ; 21: add $t1, $t0, $t0 #t1 = 2i
[00400070] 01294820 add $9, $9, $9 ; 22: add $t1, $t1, $t1 #t1 = 4i
[00400074] 0136b820 add $23, $9, $22 ; 23: add $s7, $t1, $s6 #(arrayB + i)
[00400078] 8ef70000 lw $23, 0($23) ; 24: lw $s7, 0($s7) #*(arrayB + i)
[0040007c] 02f2b820 add $23, $23, $18 ; 25: add $s7, $s7, $s2 #*(arrayB+i) + C
[00400080] 02095020 add $10, $16, $9 ; 26: add $t2, $s0, $t1 #(arrayA +i)
[00400084] ad570000 sw $23, 0($10) ; 27: sw $s7, 0($t2) #A[i] = B[i] + C
[00400088] 21080001 addi $8, $8, 1 ; 28: addi $t0, $t0, 1 #i++
[0040008c] 08100019 j 0x00400064 [for] ; 29: j for
[00400090] 2108ffff addi $8, $8, -1 ; 31: addi $t0, $t0, -1 #i--
[00400094] 29010000 slti $1, $8, 0 ; 32: blt $t0, 0, endmain
[00400098] 14200009 bne $1, $0, 36 [endmain-0x00400098]
[0040009c] 01084820 add $9, $8, $8 ; 33: add $t1, $t0, $t0 #t1 = 2i
[004000a0] 01294820 add $9, $9, $9 ; 34: add $t1, $t1, $t1 #t1 = 4i
[004000a4] 02095020 add $10, $16, $9 ; 35: add $t2, $s0, $t1 # (arrayA + i)
[004000a8] 8d4b0000 lw $11, 0($10) ; 36: lw $t3, 0($t2) # *(arrayA + i)
[004000ac] 016b5820 add $11, $11, $11 ; 37: add $t3, $t3, $t3 #t3 = 2 * A[i]
[004000b0] ad4b0000 sw $11, 0($10) ; 38: sw $t3, 0($t2) #A[i] = A[i] * 2
[004000b4] 2108ffff addi $8, $8, -1 ; 39: addi $t0, $t0, -1 #i--
[004000b8] 08100025 j 0x00400094 [while] ; 40: j while
[004000bc] 3402000a ori $2, $0, 10 ; 44: li $v0, 10
[004000c0] 0000000c syscall ; 45: syscall
FP Regs
nt Regs [10]
Data
Text
Int Regs [10]
Data
PC = 4194496
EPC = 0
Cause = 0
BadVAddr = 0
Status = 805371664
HI = 0
LO = 0
R0 [r0] = 0
R1 [at] = 1
R2 [v0] = 10
R3 [v1] = 0
R4 [a0] = 1
R5 [a1] = 2147482048
R6 [a2] = 2147482056
R7 [a3] = 0
R8 [t0] = -1
R9 [t1] = 0
R10 [t2] = 268500992
R11 [t3] = 26
R12 [t4] = 0
R13 [t5] = 0
R14 [t6] = 0
R15 [t7] = 0
R16 [s0] = 268500992
R17 [s1] = 0
R18 [s2] = 12
R19 [s3] = 0
R20 [s4] = 0
R21 [s5] = 0
R22 [s6] = 268501012
R23 [s7] = 17
User data segment [10000000]..[10040000]
[10000000]..[1000ffff] 00000000
[10010000] 0000000026 0000000028 0000000030 0000000032
[10010010] 0000000034 0000000001 0000000002 0000000003
[10010020] 0000000004 0000000005 0000000000 0000000000
[10010030]..[1003ffff] 00000000
User Stack [7ffff9bc]..[80000000]
[7ffff9bc] 0000000001
[7ffff9c0] 2147482230 0000000000 2147483615 2147483604
[7ffff9d0] 2147483579 2147483571 2147483554 2147483531
[7ffff9e0] 2147483466 2147483438 2147483406 2147483390
[7ffff9f0] 2147483336 2147483299 2147483281 2147483255
[7ffffa00] 2147483241 2147483216 2147483193 2147483170
[7ffffa10] 2147483155 2147483111 2147482997 2147482887
[7ffffa20] 2147482840 2147482809 2147482786 2147482763
[7ffffa30] 2147482752 2147482735 2147482702 2147482675
[7ffffa40] 2147482655 2147482601 2147482568 2147482527
[7ffffa50] 2147482511 2147482492 2147482474 2147482450
[7ffffa60] 2147482432 2147482416 2147482331 2147482286
[7ffffa70] 0000000000 1747910656 0795176303 1937072740
[7ffffa80] 1768042356 1668637300 0796157291 0825372722
[7ffffa90] 1818322527 1667587948 0925984112 1634479920
[7ffffaa0] 0791687522 1953653104 1935748660 1146617965
[7ffffab0] 1329815367 1195984462 1380533343 1697594707
[7ffffac0] 2016371572 2016372580 1965909860 1953396066
[7ffffad0] 1697593973 2016371572 1476421476 1147094852
[7ffffae0] 1598116929 1397901636 1937059645 1752379250
[7ffffaf0] 0795177569 1853186677 0792360308 0796029813
[7ffffb00] 1633906540 1752379244 0795177569 1937059642
[7ffffb10] 1752379250 0795177569 1635135290 1768697714
[7ffffb20] 1853042530 0795111521 1802724708 0007368564
[7ffffb30] 1027888976 1836017711 1650732901 0007631733
[7ffffb40] 1230984273 1330470733 1162630468 1969383741
[7ffffb50] 1246167155 1162108755 1598510402 1347704143

User data segment [10000000]..[10040000]

```
[10000000]..[1000ffff]  00000000
[10010000]    686a6268  00006576  00000000  00000000    h b j h v e . . . . . . . . .
[10010010]..[100100ff]  00000000
[10010100]    65746e45  20612072  69727453  203a676e    E n t e r   a   S t r i n g :
[10010110]    4e002020  2065206f  6e756f46  20650064        . N o   e   F o u n d . e
[10010120]    6e756f66  74612064  6d656d20  2079726f    f o u n d   a t   m e m o r y
[10010130]    72646441  3a737365  00002020  10010005    A d d r e s s :     . . . . . .
[10010140]    0000000a  00000000  00000000  00000000    . . . . . .
[10010150]..[1003ffff]  00000000
```