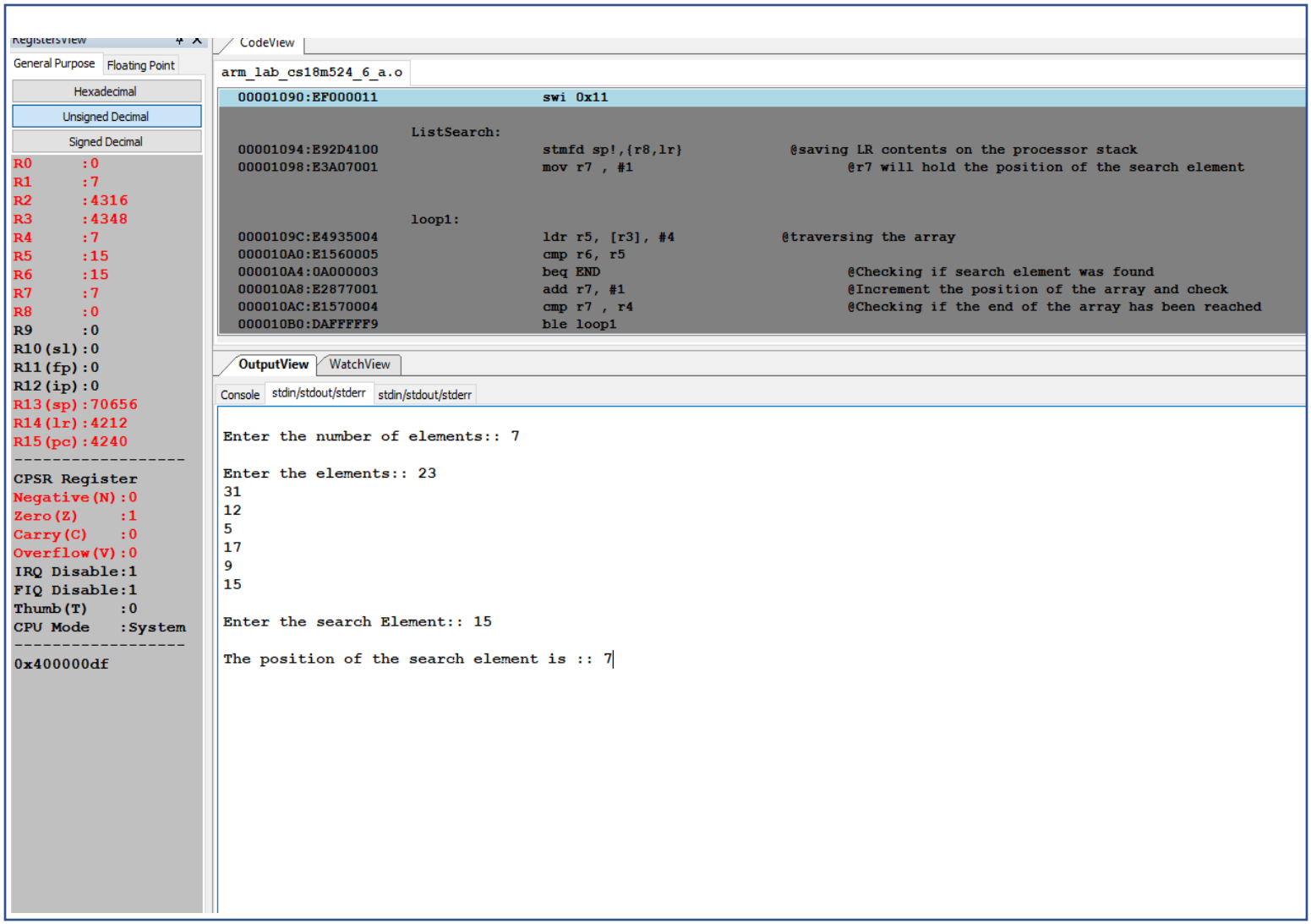
Assignment 6

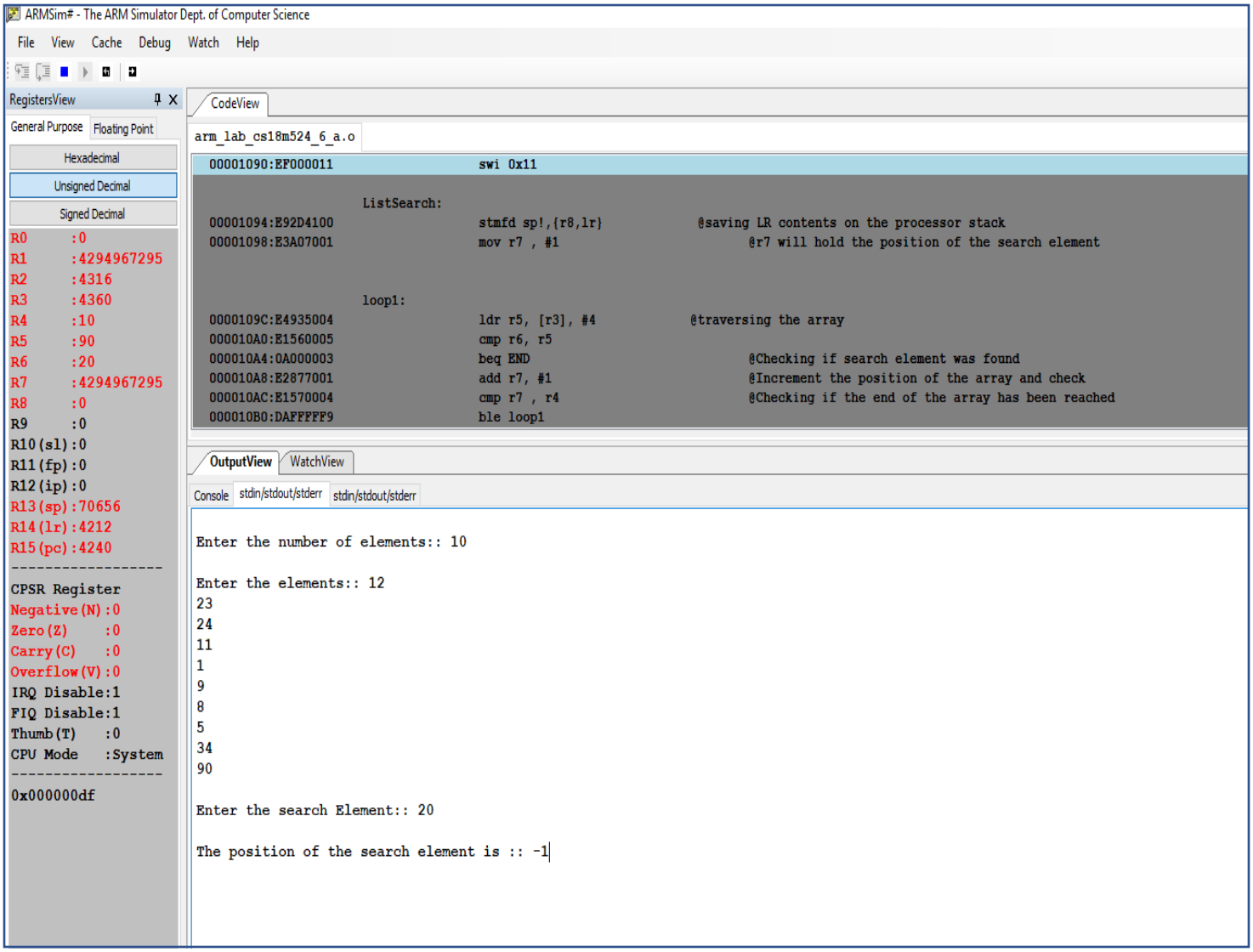
CS18M524 – Ananya Barat

1. Solved in file arm_lab_cs18m524_6_a.s

i> **Test Case 1:** When the element is present in the array and the elements are in unsorted order.
Expected Result: The first occurrence is shown as position.

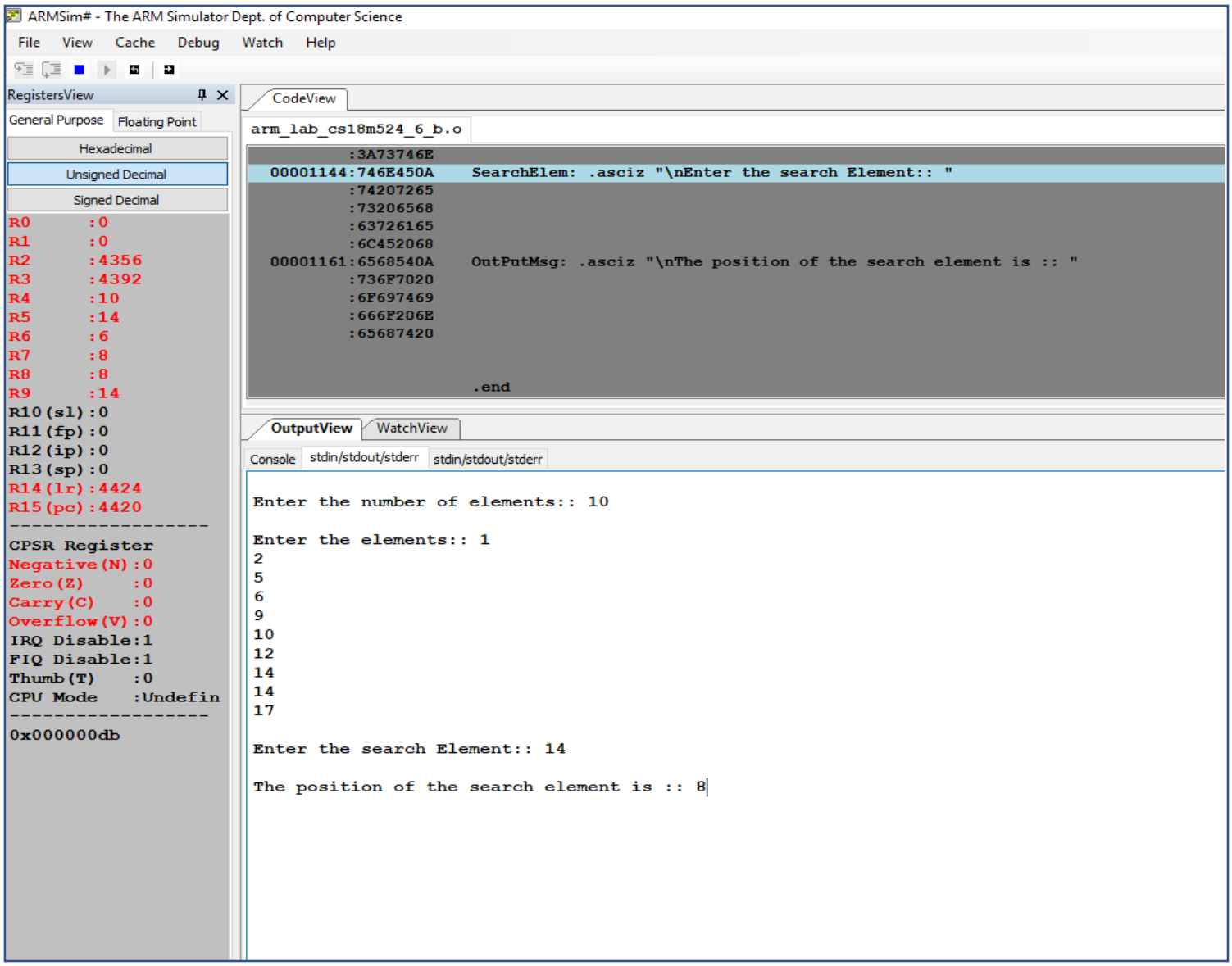


ii> **Test Case 2:** When element is not present in the array
Expected Result : Output is -1.

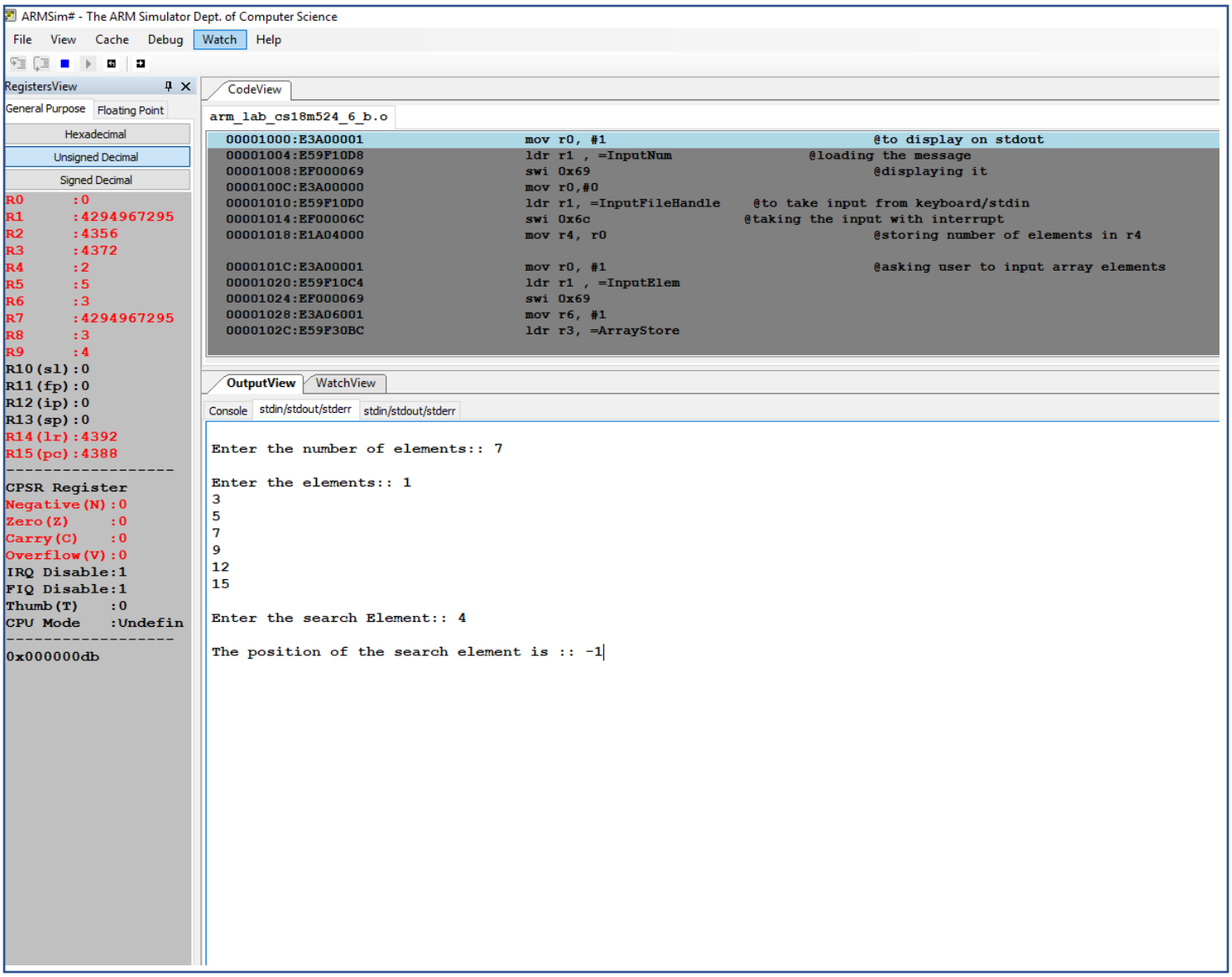


2. Solved in file arm_lab_cs18m524_6_b.s

i> **Test Case 1:** When the element is present in the array and there are duplicate inputs.
Expected Result: The first occurrence is shown as position.

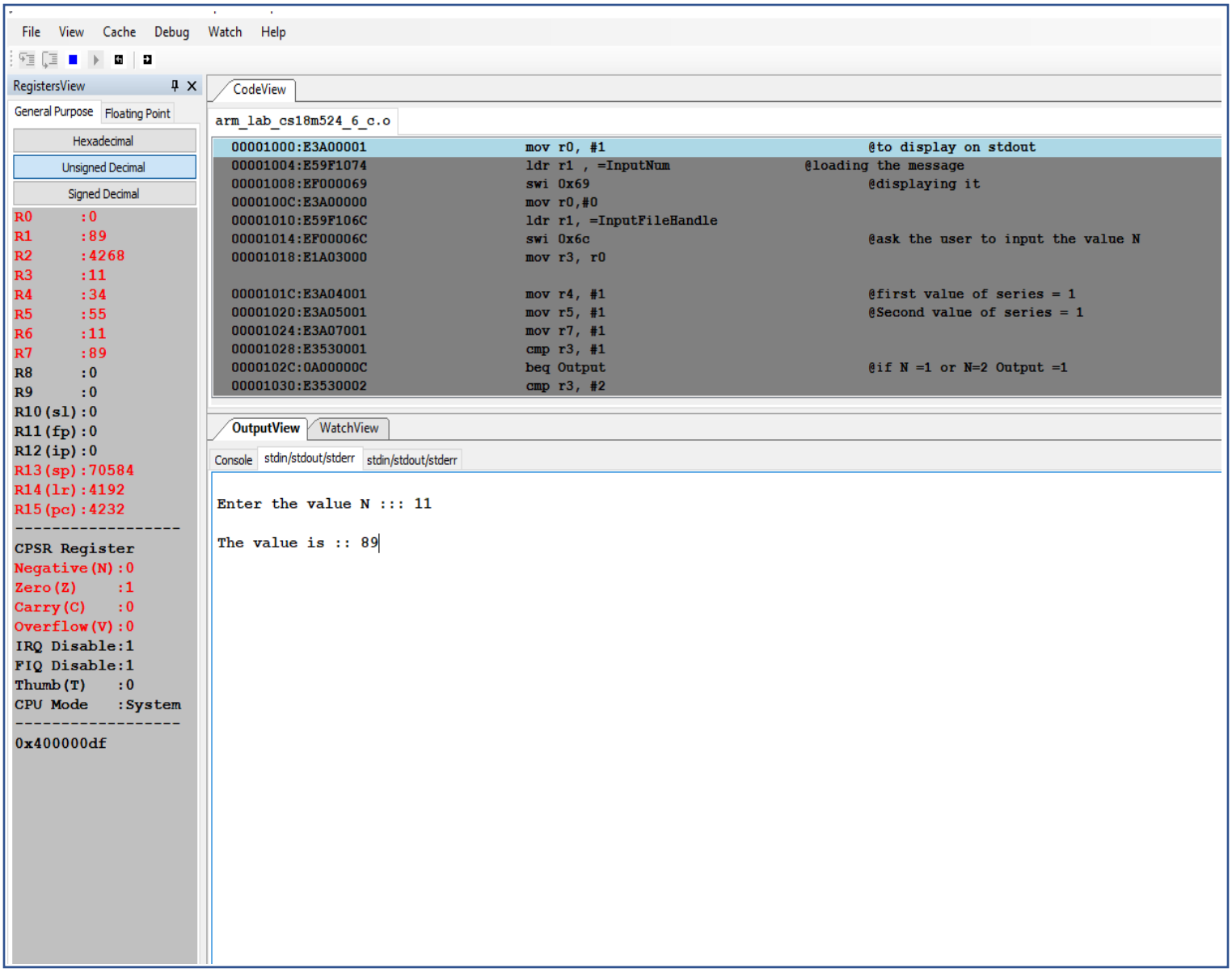


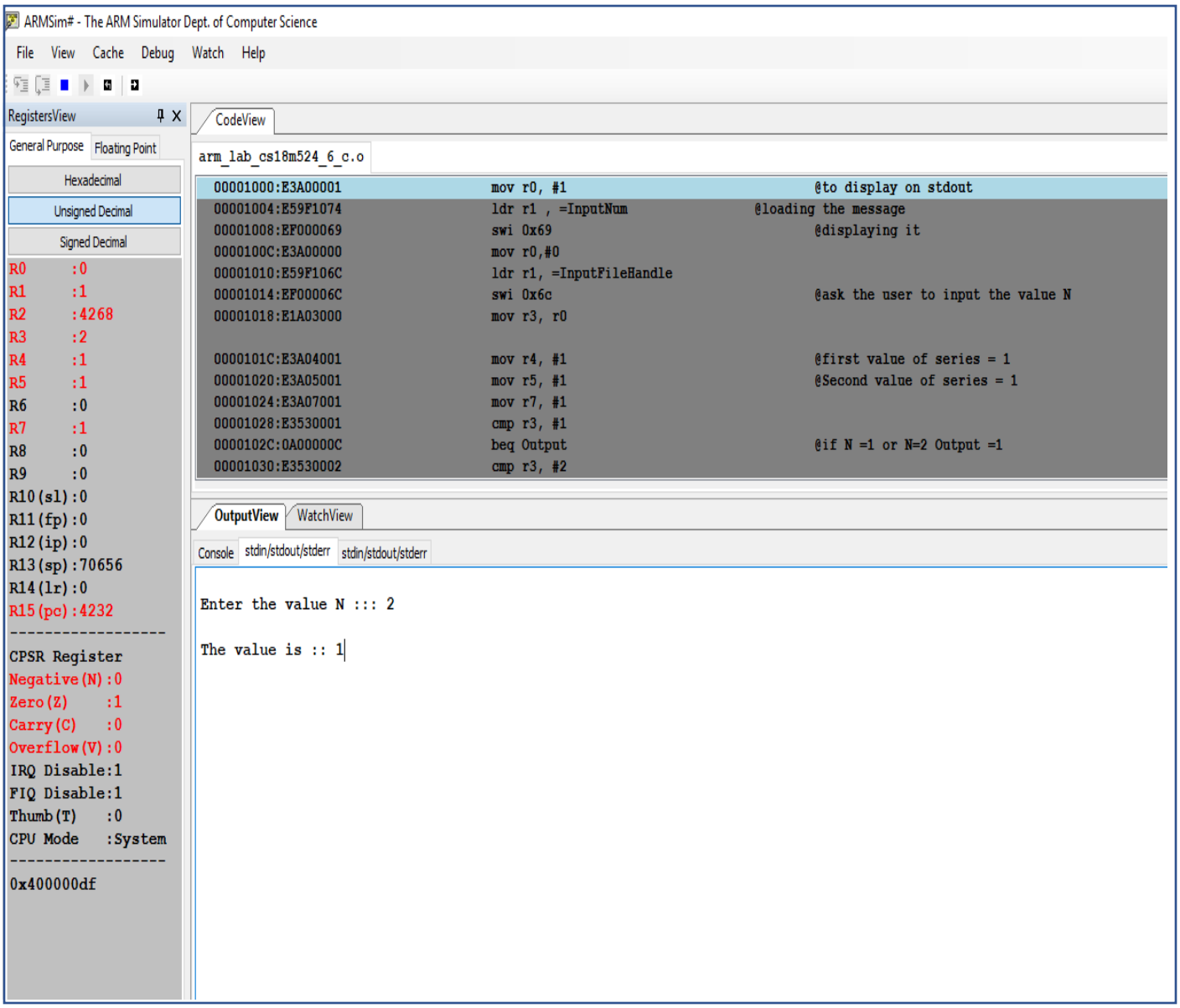
ii> **Test Case 2:** When element is not present in the array
Expected Result : Output is -1.

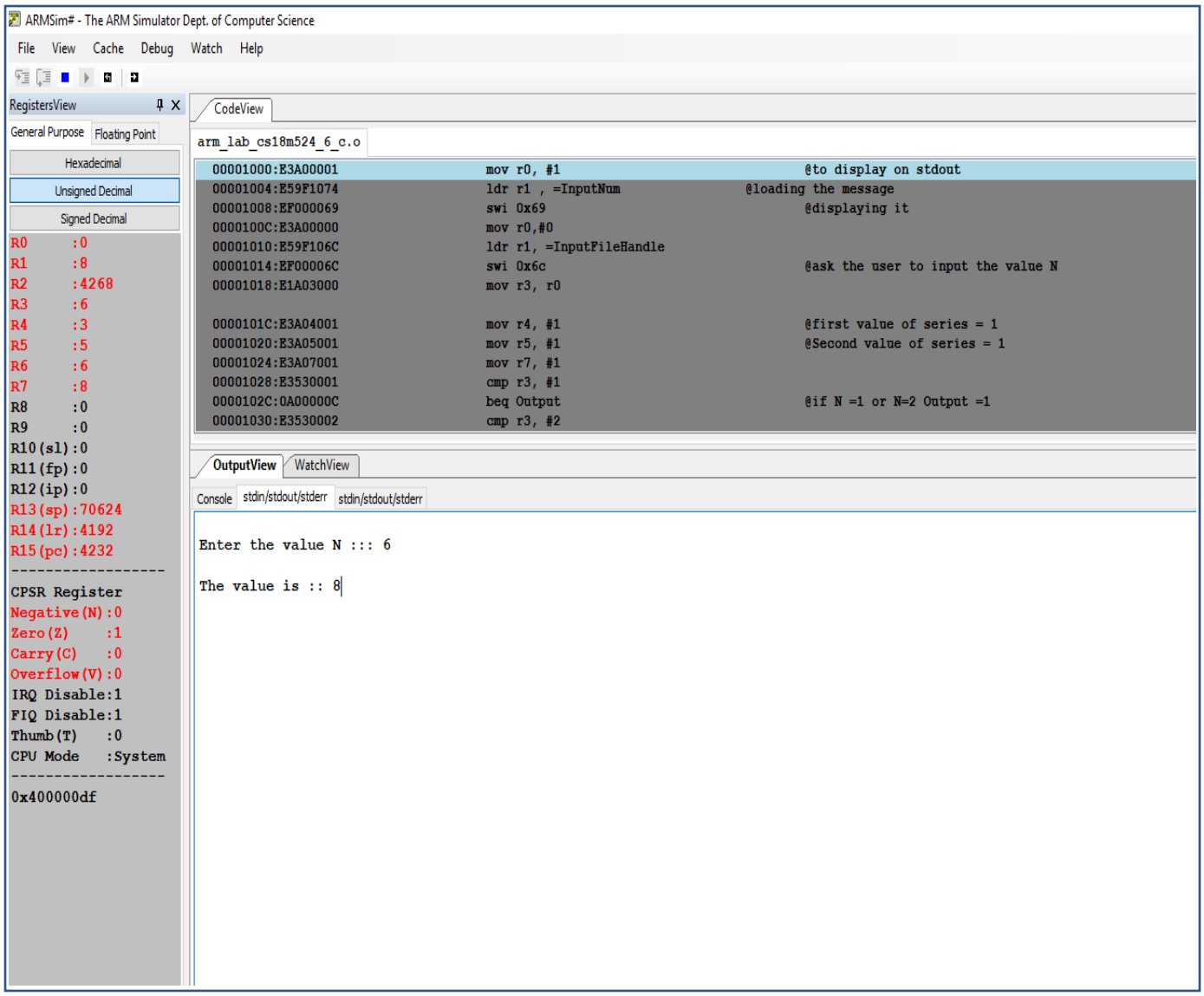


3. Solved in file arm_lab_cs18m524_6_c.s

Test case: Showing the output for 3 different values of N.


File View Cache Debug Watch Help
RegistersView
General Purpose
Floating Point
Hexadecimal
Unsigned Decimal
Signed Decimal
R0 :0
R1 :89
R2 :4268
R3 :11
R4 :34
R5 :55
R6 :11
R7 :89
R8 :0
R9 :0
R10(sl):0
R11(fp):0
R12(ip):0
R13(sp):70584
R14(lr):4192
R15(pc):4232
CPSR Register
Negative(N):0
Zero(Z) :1
Carry(C) :0
Overflow(V):0
IRQ Disable:1
FIQ Disable:1
Thumb(T) :0
CPU Mode :System
0x400000df
CodeView
arm_lab_cs18m524_6_c.o
00001000:E3A00001 mov r0, #1 @to display on stdout
00001004:E59F1074 ldr r1 , =InputNum @loading the message
00001008:EF000069 swi 0x69 @displaying it
0000100C:E3A00000 mov r0,#0
00001010:E59F106C ldr r1, =InputFileHandle
00001014:EF00006C swi 0x6c @ask the user to input the value N
00001018:E1A03000 mov r3, r0
0000101C:E3A04001 mov r4, #1 @first value of series = 1
00001020:E3A05001 mov r5, #1 @Second value of series = 1
00001024:E3A07001 mov r7, #1
00001028:E3530001 cmp r3, #1
0000102C:0A00000C beq Output @if N =1 or N=2 Output =1
00001030:E3530002 cmp r3, #2
OutputView
WatchView
Console
stdin/stdout/stderr
stdin/stdout/stderr
Enter the value N ::: 11
The value is :: 89


ARMSim# - The ARM Simulator Dept. of Computer Science
File View Cache Debug Watch Help
RegistersView
General Purpose Floating Point
Hexadecimal
Unsigned Decimal
Signed Decimal
R0 :0
R1 :1
R2 :4268
R3 :2
R4 :1
R5 :1
R6 :0
R7 :1
R8 :0
R9 :0
R10(sl):0
R11(fp):0
R12(ip):0
R13(sp):70656
R14(lr):0
R15(pc):4232
CPSR Register
Negative(N):0
Zero(Z) :1
Carry(C) :0
Overflow(V):0
IRQ Disable:1
FIQ Disable:1
Thumb(T) :0
CPU Mode :System
0x400000df
CodeView
arm_lab_cs18m524_6_c.o
00001000:E3A00001 mov r0, #1 @to display on stdout
00001004:E59F1074 ldr r1 , =InputNum @loading the message
00001008:EF000069 swi 0x69 @displaying it
0000100C:E3A00000 mov r0,#0
00001010:E59F106C ldr r1, =InputFileHandle
00001014:EF00006C swi 0x6c @ask the user to input the value N
00001018:E1A03000 mov r3, r0
0000101C:E3A04001 mov r4, #1 @first value of series = 1
00001020:E3A05001 mov r5, #1 @Second value of series = 1
00001024:E3A07001 mov r7, #1
00001028:E3530001 cmp r3, #1
0000102C:0A00000C beq Output @if N =1 or N=2 Output =1
00001030:E3530002 cmp r3, #2
OutputView
WatchView
Console
stdin/stdout/stderr
stdin/stdout/stderr
Enter the value N ::: 2
The value is :: 1


ARMSim# - The ARM Simulator Dept. of Computer Science
File View Cache Debug Watch Help
RegistersView
General Purpose Floating Point
Hexadecimal
Unsigned Decimal
Signed Decimal
R0 :0
R1 :8
R2 :4268
R3 :6
R4 :3
R5 :5
R6 :6
R7 :8
R8 :0
R9 :0
R10(sl):0
R11(fp):0
R12(ip):0
R13(sp):70624
R14(lr):4192
R15(pc):4232
CPSR Register
Negative(N):0
Zero(Z) :1
Carry(C) :0
Overflow(V):0
IRQ Disable:1
FIQ Disable:1
Thumb(T) :0
CPU Mode :System
0x400000df
CodeView
arm_lab_cs18m524_6_c.o
00001000:E3A00001 mov r0, #1 @to display on stdout
00001004:E59F1074 ldr r1 , =InputNum @loading the message
00001008:EF000069 swi 0x69 @displaying it
0000100C:E3A00000 mov r0,#0
00001010:E59F106C ldr r1, =InputFileHandle
00001014:EF00006C swi 0x6c @ask the user to input the value N
00001018:E1A03000 mov r3, r0
0000101C:E3A04001 mov r4, #1 @first value of series = 1
00001020:E3A05001 mov r5, #1 @Second value of series = 1
00001024:E3A07001 mov r7, #1
00001028:E3530001 cmp r3, #1
0000102C:0A00000C beq Output @if N =1 or N=2 Output =1
00001030:E3530002 cmp r3, #2
OutputView WatchView
Console stdin/stdout/stderr stdin/stdout/stderr
Enter the value N ::: 6
The value is :: 8