

Part1:

Case 1: String1 is greater than String 2.

The screenshot shows the ARM Simulator interface. The RegistersView on the left displays the state of various registers. The CodeView on the right shows the assembly code for 'part1.o'. The OutputView at the bottom is empty.

RegistersView:

Register	Value
R0	:0000104F
R1	:00001052
R2	:00000000
R3	:00001048
R4	:0000005a
R5	:00000041
R6	:00000000
R7	:00001052
R8	:00000000
R9	:00000000
R10 (s1)	:00000000
R11 (fp)	:00000000
R12 (ip)	:00000000
R13 (sp)	:00011400
R14 (lr)	:00000000
R15 (pc)	:00001034

CPSR Register:

Flag	Value
Negative (N)	:0
Zero (Z)	:1
Carry (C)	:1
Overflow (V)	:0
IRQ Disable	:1

CodeView (part1.o):

```
.global MAIN
.data
STR_LEN: .word 3

00001048:00000003      S1:.ascii "ZZZ"
0000104C:5A5A5A      S2:.ascii "AAA"
0000104F:414141
00001052:00000000      S1_GREATER: .word 0x00000000
```

Case 2: String1 is less than String2

The screenshot shows the ARM Simulator interface. The RegistersView on the left displays the state of various registers. The CodeView on the right shows the assembly code for 'part1.o'. The OutputView at the bottom is empty.

RegistersView:

Register	Value
R0	:00001050
R1	:0000104d
R2	:00000000
R3	:00001048
R4	:00000041
R5	:0000005a
R6	:00000002
R7	:00001052
R8	:FFFFFFF
R9	:00000000
R10 (s1)	:00000000
R11 (fp)	:00000000
R12 (ip)	:00000000
R13 (sp)	:00011400
R14 (lr)	:00000000
R15 (pc)	:00001034

CPSR Register:

Flag	Value
Negative (N)	:1
Zero (Z)	:0
Carry (C)	:0

CodeView (part1.o):

```
.global MAIN
.data
STR_LEN: .word 3

00001048:00000003      S2:.ascii "ZZZ"
0000104F:414141      S1:.ascii "AAA"
00001052:00000000      S1_GREATER: .word 0x00000000
```

Part 2:

Case 1 – Substring found:

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 : 00000000
R1 : 00000008
R2 : 00000000
R3 : 00000008
R4 : 00000000
R5 : 00000000
R6 : 00000006
R7 : 00001084
R8 : 00000004
R9 : 00000000
R10 (s1) : 00000000
R11 (fp) : 00000000
R12 (ip) : 00000000
R13 (sp) : 00011400
R14 (lr) : 00000000
R15 (pc) : 00011400

CPSR Register
Negative (N) : 0
Zero (Z) : 1
Carry (C) : 1

CodeView

part2.o

```
.global main

.data
STRING:.asciz "ABC12D"
:004432
.align
SUBSTR:.asciz "12"
.align
PRESENT: .word 0x00000000
```

OutputView WatchView

Console stdin/stdout/stderr

Case 2 – Substring Not found:

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 : 0000107E
R1 : 00000000
R2 : 00000000
R3 : 00000000
R4 : 00000000
R5 : 00000031
R6 : 00000007
R7 : 00001084
R8 : 00000000
R9 : 00000000
R10 (s1) : 00000000
R11 (fp) : 00000000
R12 (ip) : 00000000
R13 (sp) : 00011400
R14 (lr) : 00000000
R15 (pc) : 00011400

CPSR Register
Negative (N) : 0
Zero (Z) : 1

CodeView

part2.o

```
.global main

.data
STRING:.asciz "ABC12D"
:004432
.align
SUBSTR:.asciz "123"
.align
PRESENT: .word 0x00000000
```

OutputView WatchView

Console stdin/stdout/stderr