

C:\Users\Mahmoud El-Sakka\Desktop\COURSES_and_MATERIAL\2208\aa.uvproj - µVision4

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Registers Disassembly

Register	Value
R0	0x00000000
R1	0x00000000
R2	0x00000000
R3	0x00000000
R4	0x00000000
R5	0x00000000
R6	0x00000000
R7	0x00000000
R8	0x00000000
R9	0x00000000
R10	0x00000000
R11	0x00000000
R12	0x00000000
R13(SP)	0x00000000
R14(LR)	0x00000000
R15(PC)	0x00000000
CPSR	0x00000003
User/System	
+ Fast Interrupt	
+ Supervisor	
+ Abort	
+ Undefined	
Internal	
PC \$	0x00000000
Mode	Supervisor
States	0
Sec	0.00000000

```

4:   ADR    r0,table1 ; r0 points to source
5:   ADR    r1,table2 ; r1 points to the destination
0x00000004 E28F0018 ADD  R0,PC,#0x00000018
6:   MOV    r2,#2      ; 2 blocks of 8 words = 16 words (64 bytes) to move
0x00000008 E3A2002 MOV  R2,#0x00000002
7:   Loop   LDMFD  r0!,r3-r10; REPEAT Load 32 bytes in 8 registers (r3 to r10)
          LDMIA  R0!,r3-r10
8:   STMFD r1!,r3-r10; store the registers at their destination
          STMDA R1!,r3-r10
9:   SUBS  r2,r2,#1   ; decrement loop counter
10:  BNE   Loop   R2,R2,#0x00000001
11:  Inf   B     Inf
12:  table1 dcb "abcdefghijkl2345678ABCDEFGHI12345678"
13:  dcb "12345678asdflghjk09876543QWERTYUI"
14:  space 64
15:  table2 dcb 0x00
16:
17:  END
18

```

Memory 1

Address: 0

Call Stack + Locals Memory 1

Simulation t1: 0.00000000 sec

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Registers Disassembly

Register	Value
R0	0x00000000
R1	0x00000000
R2	0x00000000
R3	0x00000000
R4	0x00000000
R5	0x00000000
R6	0x00000000
R7	0x00000000
R8	0x00000000
R9	0x00000000
R10	0x00000000
R11	0x00000000
R12	0x00000000
R13(SP)	0x00000000
R14(LR)	0x00000000
R15(PC)	0x00000004
CPSR	0x00000003
User/System	
+ Fast Interrupt	
+ Interrupt	
+ Supervisor	
+ Abort	
+ Undefined	
Internal	
PC \$	0x00000004
Mode	Supervisor
States	1
Sec	0.00000000

```

4:   ADR    r0,table1 ; r0 points to source
5:   ADR    r1,table2 ; r1 points to the destination
0x00000004 E28F0018 ADD  R0,PC,#0x00000018
6:   MOV    r2,#2      ; 2 blocks of 8 words = 16 words (64 bytes) to move
0x00000008 E3A2002 MOV  R2,#0x00000002
7:   Loop   LDMFD  r0!,r3-r10; REPEAT Load 32 bytes in 8 registers (r3 to r10)
          LDMIA  R0!,r3-r10
8:   STMFD r1!,r3-r10; store the registers at their destination
          STMDA R1!,r3-r10
9:   SUBS  r2,r2,#1   ; decrement loop counter
10:  BNE   Loop   R2,R2,#0x00000001
11:  Inf   B     Inf
12:  table1 dcb "abcdefghijkl2345678ABCDEFGHI12345678"
13:  dcb "12345678asdflghjk09876543QWERTYUI"
14:  space 64
15:  table2 dcb 0x00
16:
17:  END
18

```

Memory 1

Address: 0

Call Stack + Locals Memory 1

Simulation t1: 0.00000000 sec

C:\Users\Mahmoud El-Sakka\Desktop\COURSES_and_MATERIAL\2208\aa.uvproj - µVision4

Registers Disassembly

Register	Value
Current	0x00000000
R0	0x00000000
R1	0x000000A0
R2	0x00000000
R3	0x00000000
R4	0x00000000
R5	0x00000000
R6	0x00000000
R7	0x00000000
R8	0x00000000
R9	0x00000000
R10	0x00000000
R11	0x00000000
R12	0x00000000
R13(SP)	0x00000000
R14(LR)	0x00000000
R15(PC)	0x00000008
CPSR	0x00000003
SPSR	0x00000000
User/System	
Fast Interrupt	
Interrupt	
Supervisor	
Abort	
Undefined	
Internal	
PC \$	0x00000008
Mode \$	Supervisor
States	2
Sec	0.00000000

```

4:   ADR    r0,table1 ; r0 points to source
5:   ADR    r1,table2 ; r1 points to the destination
6:   MOV    r2,#2       ; 2 blocks of 8 words = 16 words (64 bytes) to move
7: Loop  LDMFD  r0!,r3-r10; REPEAT Load 32 bytes in 8 registers (r3 to r10)
0x00000008 E3A02002 MCV R2,#0x00000002
8:   STMFD r1!,r3-r10; store the registers at their destination
9:   SUBS  r2,r2,#1     ; decrement loop counter
10:  BNE   Loop      ; UNTIL all 2 blocks of 8 registers moved
11:  Inf   B         Inf
12:  table1 dcb "abcdefghijkl2345678ABCDEFGHI2345678"
13:  dcb "12345678asdflghjk09876543QWERTYUI"
14:  space 64
15:  table2 dcb 0x00
16:
17:  END
18:

```

Memory 1

Call Stack + Locals Memory 1

Simulation 11:0.00000000 sec

C:\Users\Mahmoud El-Sakka\Desktop\COURSES_and_MATERIAL\2208\aa.uvproj - µVision4

Registers Disassembly

Register	Value
Current	0x00000000
R0	0x00000000
R1	0x000000A0
R2	0x00000007
R3	0x00000000
R4	0x00000000
R5	0x00000000
R6	0x00000000
R7	0x00000000
R8	0x00000000
R9	0x00000000
R10	0x00000000
R11	0x00000000
R12	0x00000000
R13(SP)	0x00000000
R14(LR)	0x00000000
R15(PC)	0x0000000C
CPSR	0x00000003
SPSR	0x00000000
User/System	
Fast Interrupt	
Interrupt	
Supervisor	
Abort	
Undefined	
Internal	
PC 3	0x0000000C
Mode	Supervisor
States	3
Sec	0.00000000

```

4:   ADR    r0,table1 ; r0 points to source
5:   ADR    r1,table2 ; r1 points to the destination
6:   MOV    r2,#2       ; 2 blocks of 8 words = 16 words (64 bytes) to move
7: Loop  LDMFD  r0!,r3-r10; REPEAT Load 32 bytes in 8 registers (r3 to r10)
0x00000008 E3A02002 MCV R1,PC,#0x00000094
8:   STMFD r1!,r3-r10; store the registers at their destination
9:   SUBS  r2,r2,#1     ; decrement loop counter
10:  BNE   Loop      ; UNTIL all 2 blocks of 8 registers moved
11:  Inf   B         Inf
12:  table1 dcb "abcdefghijkl2345678ABCDEFGHI2345678"
13:  dcb "12345678asdflghjk09876543QWERTYUI"
14:  space 64
15:  table2 dcb 0x00
16:
17:  END
18:

```

Memory 1

Call Stack + Locals Memory 1

Simulation 11:0.00000000 sec

C:\Users\Mahmoud_El-Sakka\Desktop\COURSES_and_MATERIAL\2208\aa.uvproj - µVision4

Registers Disassembly

Register	Value
R0	0x00000040
R1	0x000000A0
R2	0x00000002
R3	0x01626364
R4	0x05566768
R5	0x01323334
R6	0x05363738
R7	0x01424344
R8	0x05464748
R9	0x01323330
R10	0x05363738
R11	0x00000000
R12	0x00000000
R13(SP)	0x00000000
R14(LR)	0x00000000
R15(PC)	0x00000010
CPSR	0x00000003
SPSR	0x00000000
User/System	
Fast Interrupt	
Interrupt	
Supervisor	
Abort	
Undefined	
Internal	
PC \$	0x00000010
Mode	Supervisor
States	13
Sec	0.00000000

```

4:   ADR    r0,table1 ; r0 points to source
5:   ADR    r1,table2 ; r1 points to the destination
6:   MOV    r2,#2      ; 2 blocks of 8 words = 16 words (64 bytes) to move
7:   Loop   LDMFD  r0!,{r3-r10}; REPEAT Load 32 bytes in 8 registers (r3 to r10)
8:   STMFD r1!,{r3-r10}; store the registers at their destination
9:   SUBS  r2,r2,#1  ; decrement loop counter
10:  BNE   r0,table1 ; UNTIL all 2 blocks of 8 registers moved
11:  Inf   B     Inf
12:  table1 dcb "abcdefghijkl12345678ABCDEFGHI12345678"
13:  dcb "12345678asdflghjk09876543QWERTYUI"
14:  space 64
15:  table2 dcb 0x00
16:
17:  END
18:

```

Memory 1

Address: 0

Call Stack + Locals Memory 1

Simulation t1: 0.00000000 sec

C:\Users\Mahmoud_El-Sakka\Desktop\COURSES_and_MATERIAL\2208\aa.uvproj - µVision4

Registers Disassembly

Register	Value
R0	0x00000040
R1	0x000000A0
R2	0x00000002
R3	0x01626364
R4	0x05566768
R5	0x01323334
R6	0x05363738
R7	0x01424344
R8	0x05464748
R9	0x01323330
R10	0x05363738
R11	0x00000000
R12	0x00000000
R13(SP)	0x00000000
R14(LR)	0x00000000
R15(PC)	0x00000014
CPSR	0x00000003
SPSR	0x00000000
User/System	
Fast Interrupt	
Interrupt	
Supervisor	
Abort	
Undefined	
Internal	
PC \$	0x00000014
Mode	Supervisor
States	22
Sec	0.00000000

```

4:   ADR    r0,table1 ; r0 points to source
5:   ADR    r1,table2 ; r1 points to the destination
6:   MOV    r2,#2      ; 2 blocks of 8 words = 16 words (64 bytes) to move
7:   Loop   LDMFD  r0!,{r3-r10}; REPEAT Load 32 bytes in 8 registers (r3 to r10)
8:   STMFD r1!,{r3-r10}; store the registers at their destination
9:   SUBS  r2,r2,#1  ; decrement loop counter
10:  BNE   r0,table1 ; UNTIL all 2 blocks of 8 registers moved
11:  Inf   B     Inf
12:  table1 dcb "abcdefghijkl12345678ABCDEFGHI12345678"
13:  dcb "12345678asdflghjk09876543QWERTYUI"
14:  space 64
15:  table2 dcb 0x00
16:
17:  END
18:

```

Memory 1

Address: 0

Call Stack + Locals Memory 1

Simulation t1: 0.00000000 sec

C:\Users\Mahmoud_El-Sakka\Desktop\COURSES_and_MATERIAL\2208\aa.uvproj - µVision4

Registers Disassembly

Register	Value
R0	0x00000040
R1	0x00000000
R2	0x00000001
R3	0x1626364
R4	0x5566768
R5	0x1323334
R6	0x5353738
R7	0x1424344
R8	0x1323334
R9	0x1323334
R10	0x5353738
R11	0x00000000
R12	0x00000000
R13(SP)	0x00000000
R14(LR)	0x00000000
R15(PC)	0x00000018
CPSR	0x20000003
User/System	
+ Fast Interrupt	
+ Interrupt	
+ Supervisor	
+ Abort	
+ Undefined	
Internal	
PC \$	0x00000018
Mode	Supervisor
States	23
Sec	0.00000000

```

4:   ADR    r0,table1 ; r0 points to source
5:   ADR    r1,table2 ; r1 points to the destination
6:   MOV    r2,#2 ; 2 blocks of 8 words = 16 words (64 bytes) to move
7:   Loop   LDMFD  r0!,r3-r10 ; REPEAT Load 32 bytes in 8 registers (r3 to r10)
8:   STMFD r1!,r3-r10 ; store the registers at their destination
9:   SUBS   r2,r2,#1 ; decrement loop counter
10:  BNE   Loop   ; UNTIL all 2 blocks of 8 registers moved
11:  Inf   B     Inf
12:  table1 dcb "abcdefghijkl2345678ABCDEFGHI2345678"
13:  dcb "12345678asdflghjk09876543QWERTYUI"
14:  space 64
15:  table2 dcb 0x00
16:
17:  END
18

```

Memory 1

Address: 0

Call Stack + Locals Memory 1

Simulation t1: 0.00000000 sec

C:\Users\Mahmoud_El-Sakka\Desktop\COURSES_and_MATERIAL\2208\aa.uvproj - µVision4

Registers Disassembly

Register	Value
R0	0x00000040
R1	0x00000000
R2	0x00000001
R3	0x1626364
R4	0x5566768
R5	0x1323334
R6	0x5353738
R7	0x1424344
R8	0x5464748
R9	0x1323334
R10	0x5353738
R11	0x00000000
R12	0x00000000
R13(SP)	0x00000000
R14(LR)	0x00000000
R15(PC)	0x00000000
CPSR	0x20000003
User/System	
+ Fast Interrupt	
+ Interrupt	
+ Supervisor	
+ Abort	
+ Undefined	
Internal	
PC \$	0x0000000C
Mode	Supervisor
States	26
Sec	0.00000000

```

4:   ADR    r0,table1 ; r0 points to source
5:   ADR    r1,table2 ; r1 points to the destination
6:   MOV    r2,#2 ; 2 blocks of 8 words = 16 words (64 bytes) to move
7:   Loop   LDMFD  r0!,r3-r10 ; REPEAT Load 32 bytes in 8 registers (r3 to r10)
8:   STMFD r1!,r3-r10 ; store the registers at their destination
9:   SUBS   r2,r2,#1 ; decrement loop counter
10:  BNE   Loop   ; UNTIL all 2 blocks of 8 registers moved
11:  Inf   B     Inf
12:  table1 dcb "abcdefghijkl2345678ABCDEFGHI2345678"
13:  dcb "12345678asdflghjk09876543QWERTYUI"
14:  space 64
15:  table2 dcb 0x00
16:
17:  END
18

```

Memory 1

Address: 0

Call Stack + Locals Memory 1

Simulation t1: 0.00000000 sec

C:\Users\Mahmoud El-Sakka\Desktop\COURSES_and_MATERIAL\2208\aa.uvproj - µVision4

Registers Disassembly

Register	Value
R0	0x00000060
R1	0x00000001
R2	0x00000001
R3	0x132334
R4	0x3533738
R5	0x1736466
R6	0x7636468
R7	0x03033837
R8	0x3633433
R9	0x15174542
R10	0x459549
R11	0x00000000
R12	0x00000000
R13(SP)	0x00000000
R14(LR)	0x00000000
R15(PC)	0x00000010
CPSR	0x20000003
SPSR	0x00000000
User/System	
Fast Interrupt	
Interrupt	
Supervisor	
Abort	
Undefined	
Internal	
PC \$	0x00000010
Mode	Supervisor
States	36
Sec	0.00000000

```

4:   ADR    r0,table1 ; r0 points to source
5:   ADR    r1,table2 ; r1 points to the destination
6:   MOV    r2,#2        ; 2 blocks of 8 words = 16 words (64 bytes) to move
7:   Loop   LDMFD  r0!,{r3-r10} ; REPEAT Load 32 bytes in 8 registers (r3 to r10)
8:   STMD   r1!,{r3-r10} ; store the registers at their destination
9:   SUBS   r2,r2,#1      ; decrement loop counter
10:  BNE   r0,table1,10 ; UNTIL all 2 blocks of 8 registers moved
11:  Inf    B     Inf
12:  table1 dcb "abcdefghijkl12345678ABCDEFGHI12345678"
13:  dcb "12345678asdflghjk09876543QWERTYUI"
14:  space 64
15:  table2 dcb 0x00
16:
17:  END
18:

```

Memory 1

Address: 0

```

0x00000000: E2 8F 00 18 E2 8F 02 52 20 01 1A FF FF FB EA FF FF FF
0x00000010: E9 21 07 F8 E2 52 20 01 1A FF FF FB EA FF FF FF
0x00000020: E1 62 63 64 65 66 67 68 31 32 33 34 35 36 37 38
0x00000030: E1 42 43 44 45 46 47 48 31 32 33 34 35 36 37 38
0x00000040: 31 32 33 34 35 36 37 38 61 73 64 66 67 68 6A 6B
0x00000050: 30 31 32 33 34 35 36 37 38 62 63 64 65 66 67 68 69 6C 6D
0x00000060: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
0x00000070: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
0x00000080: E1 62 63 64 65 66 67 68 31 32 33 34 35 36 37 38
0x00000090: E1 42 43 44 45 46 47 48 31 32 33 34 35 36 37 38
0x000000A0: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
0x000000B0: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00

```

Call Stack & Locals Memory 1

Simulation t1:0.00000000 sec

C:\Users\Mahmoud El-Sakka\Desktop\COURSES_and_MATERIAL\2208\aa.uvproj - µVision4

Registers Disassembly

Register	Value
R0	0x00000060
R1	0x00000001
R2	0x00000001
R3	0x132334
R4	0x3533738
R5	0x1736466
R6	0x7636468
R7	0x03033837
R8	0x3633433
R9	0x15174542
R10	0x459549
R11	0x00000000
R12	0x00000000
R13(SP)	0x00000000
R14(LR)	0x00000000
R15(PC)	0x00000011
CPSR	0x20000003
SPSR	0x00000000
User/System	
Fast Interrupt	
Interrupt	
Supervisor	
Abort	
Undefined	
Internal	
PC \$	0x00000014
Mode	Supervisor
States	45
Sec	0.00000000

```

4:   ADR    r0,table1 ; r0 points to source
5:   ADR    r1,table2 ; r1 points to the destination
6:   MOV    r2,#2        ; 2 blocks of 8 words = 16 words (64 bytes) to move
7:   Loop   LDMFD  r0!,{r3-r10} ; REPEAT Load 32 bytes in 8 registers (r3 to r10)
8:   STMD   r1!,{r3-r10} ; store the registers at their destination
9:   SUBS   r2,r2,#1      ; decrement loop counter
10:  BNE   r0,table1,10 ; UNTIL all 2 blocks of 8 registers moved
11:  Inf    B     Inf
12:  table1 dcb "abcdefghijkl12345678ABCDEFGHI12345678"
13:  dcb "12345678asdflghjk09876543QWERTYUI"
14:  space 64
15:  table2 dcb 0x00
16:
17:  END
18:

```

Memory 1

Address: 0

```

0x00000000: E2 8F 00 18 E2 8F 02 52 20 01 1A FF FF FB EA FF FF FF
0x00000010: E9 21 07 F8 E2 52 20 01 1A FF FF FB EA FF FF FF
0x00000020: E1 62 63 64 65 66 67 68 31 32 33 34 35 36 37 38
0x00000030: E1 42 43 44 45 46 47 48 31 32 33 34 35 36 37 38
0x00000040: 31 32 33 34 35 36 37 38 61 73 64 66 67 68 6A 6B
0x00000050: 30 31 32 33 34 35 36 37 38 62 63 64 65 66 67 68 69 6C 6D
0x00000060: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
0x00000070: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
0x00000080: E1 62 63 64 65 66 67 68 31 32 33 34 35 36 37 38
0x00000090: E1 42 43 44 45 46 47 48 31 32 33 34 35 36 37 38
0x000000A0: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
0x000000B0: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00

```

Call Stack & Locals Memory 1

Simulation t1:0.00000000 sec

C:\Users\Mahmoud El-Sakka\Desktop\COURSES_and_MATERIAL\2208\aa.uvproj - µVision4

File Edit View Project Flash Debug Peripherals Tools SVCS Window Help

Registers Disassembly

Register	Value
Current	0x00000000
R0	0x00000060
R1	0x00000060
R2	0x00000000
R3	0x31323334
R4	0x35363738
R5	0x17364666
R6	0x7636466B
R7	0x00303837
R8	0x36334333
R9	0x15174562
R10	0x4595549
R11	0x00000000
R12	0x00000000
R13(SP)	0x00000000
R14(LR)	0x00000000
R15(PC)	0x00000018
CPSR	0x00000003
User/System	
Fast Interrupt	
Interrupt	
Supervisor	
Abort	
Undefined	
Internal	
PC \$	0x00000018
Mode	Supervisor
States	46
Sec	0.00000000

```

4:   ADR    r0,table1 ; r0 points to source
5:   ADR    r1,table2 ; r1 points to the destination
6:   MOV    r2,#2        ; 2 blocks of 8 words = 16 words (64 bytes) to move
7:   Loop   LDMFD  r0!,{r3-r10}; REPEAT Load 32 bytes in 8 registers (r3 to r10)
8:   STMDF r1!,{r3-r10}; store the registers at their destination
9:   SUBS  r2,r2,#1      ; decrement loop counter
10:  BNE   Loop   ; UNTIL all 2 blocks of 8 registers moved
11:  Inf   B   Inf
12:  table1 dcb "abcdefghijkl2345678ABCDEFGHI12345678"
13:  dcb "12345678asdflghjk09876543QWERTYUI"
14:  space 64
15:  table2 dcb 0x00
16:
17:  END
18

```

Memory 1

Address: 0

Call Stack + Locals Memory 1

Simulation t1: 0.00000000 sec

C:\Users\Mahmoud El-Sakka\Desktop\COURSES_and_MATERIAL\2208\aa.uvproj - µVision4

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Registers Disassembly

Register	Value
Current	0x00000000
R0	0x00000060
R1	0x00000060
R2	0x00000000
R3	0x31323334
R4	0x35363738
R5	0x17364666
R6	0x7636466B
R7	0x00303837
R8	0x36334333
R9	0x15174562
R10	0x4595549
R11	0x00000000
R12	0x00000000
R13(SP)	0x00000000
R14(LR)	0x00000000
R15(PC)	0x0000001C
CPSR	0x00000003
User/System	
Fast Interrupt	
Interrupt	
Supervisor	
Abort	
Undefined	
Internal	
PC \$	0x0000001C
Mode	Supervisor
States	47
Sec	0.00000000

```

4:   ADR    r0,table1 ; r0 points to source
5:   ADR    r1,table2 ; r1 points to the destination
6:   MOV    r2,#2        ; 2 blocks of 8 words = 16 words (64 bytes) to move
7:   Loop   LDMFD  r0!,{r3-r10}; REPEAT Load 32 bytes in 8 registers (r3 to r10)
8:   STMDF r1!,{r3-r10}; store the registers at their destination
9:   SUBS  r2,r2,#1      ; decrement loop counter
10:  BNE   Loop   ; UNTIL all 2 blocks of 8 registers moved
11:  Inf   B   Inf
12:  table1 dcb "abcdefghijkl2345678ABCDEFGHI12345678"
13:  dcb "12345678asdflghjk09876543QWERTYUI"
14:  space 64
15:  table2 dcb 0x00
16:
17:  END
18

```

Memory 1

Address: 0

Call Stack + Locals Memory 1

Order was not kept

Should use STMEA and fix table2 label

Simulation t1: 0.00000000 sec

C:\Users\Mahmoud El-Sakka\Desktop\COURSES_and_MATERIAL\2208\aa.uvproj - µVision4

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Registers Disassembly

Register	Value
Current	0x00000000
R0	0x00000000
R1	0x00000000
R2	0x00000000
R3	0x00000000
R4	0x00000000
R5	0x00000000
R6	0x00000000
R7	0x00000000
R8	0x00000000
R9	0x00000000
R10	0x00000000
R11	0x00000000
R12	0x00000000
R13(SP)	0x00000000
R14(LR)	0x00000000
R15(PC)	0x00000000
CPSR	0x00000003
SPSR	0x00000000
User/System	
Fast Interrupt	
Interrupt	
Supervisor	
Abort	
Undefined	
Internal	
PC \$	0x00000000
Mode	Supervisor
States	0
Sec	0.00000000

```

4:    ADR    r0,table1 ; r0 points to source
5:    ADR    r1,table2 ; r1 points to the destination
6:    MOV    r2,#2          ; 2 blocks of 8 words = 16 words (64 bytes) to move
7:    Loop   LDMFD  r0!,r3-r10; REPEAT Load 32 bytes in 8 registers (r3 to r10)
8:    STMEA r1!,r3-r10; store the registers at their destination
9:    SUBS  r2,r2,#1        ; decrement loop counter
10:   BNE   Loop      ; UNTIL all 2 blocks of 8 registers moved
11:   Inf   B     Inf
12:   table1 dcb "abcdefghijkl2345678ABCDEFGHI2345678"
13:   dcb "12345678asdflghjk09876543QWERTYUI"
14:   table2 space 64
15:
16:   END
17

```

Memory 1

Address: 0

```

0x00000000: E2 8F 00 18 E2 8F 10 54 E9 80 20 02 E8 50 0F F8
0x00000010: E8 A1 07 F8 E2 52 20 01 1A FF FF FB EA FF FF FE
0x00000020: 61 62 63 64 65 66 67 68 31 32 33 34 35 36 37 38
0x00000030: 41 42 43 44 45 46 47 48 31 32 33 34 35 36 37 38
0x00000040: 31 32 33 34 35 36 37 38 61 73 64 66 67 68 6A 6B
0x00000050: 30 39 38 37 36 35 34 33 51 57 45 52 54 59 55 49
0x00000060: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
0x00000070: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
0x00000080: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
0x00000090: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
0x000000A0: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
0x000000B0: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
0x000000C0: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
0x000000D0: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
0x000000E0: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
0x000000F0: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00

```

Call Stack + Locals Memory 1

Simulation t1: 0.00000000 sec

C:\Users\Mahmoud El-Sakka\Desktop\COURSES_and_MATERIAL\2208\aa.uvproj - µVision4

File Edit View Project Flash Debug Peripherals Tools SVCS Window Help

Registers Disassembly

Register	Value
Current	0x00000000
R0	0x00000000
R1	0x00000000
R2	0x00000000
R3	0x00000000
R4	0x00000000
R5	0x00000000
R6	0x00000000
R7	0x00000000
R8	0x00000000
R9	0x00000000
R10	0x00000000
R11	0x00000000
R12	0x00000000
R13(SP)	0x00000000
R14(LR)	0x00000000
R15(PC)	0x00000000
CPSR	0x00000003
SPSR	0x00000000
User/System	
Fast Interrupt	
Interrupt	
Supervisor	
Abort	
Undefined	
Internal	
PC \$	0x00000004
Mode	Supervisor
States	1
Sec	0.00000000

```

4:    ADR    r0,table1 ; r0 points to source
5:    ADR    r1,table2 ; r1 points to the destination
6:    MOV    r2,#2          ; 2 blocks of 8 words = 16 words (64 bytes) to move
7:    Loop   LDMFD  r0!,r3-r10; REPEAT Load 32 bytes in 8 registers (r3 to r10)
8:    STMEA r1!,r3-r10; store the registers at their destination
9:    SUBS  r2,r2,#1        ; decrement loop counter
10:   BNE   Loop      ; UNTIL all 2 blocks of 8 registers moved
11:   Inf   B     Inf
12:   table1 dcb "abcdefghijkl2345678ABCDEFGHI2345678"
13:   dcb "12345678asdflghjk09876543QWERTYUI"
14:   table2 space 64
15:
16:   END
17

```

Memory 1

Address: 0

```

0x00000000: E2 8F 00 18 E2 8F 10 54 E9 80 20 02 E8 50 0F F8
0x00000010: E8 A1 07 F8 E2 52 20 01 1A FF FF FB EA FF FF FE
0x00000020: 61 62 63 64 65 66 67 68 31 32 33 34 35 36 37 38
0x00000030: 41 42 43 44 45 46 47 48 31 32 33 34 35 36 37 38
0x00000040: 31 32 33 34 35 36 37 38 61 73 64 66 67 68 6A 6B
0x00000050: 30 39 38 37 36 35 34 33 51 57 45 52 54 59 55 49
0x00000060: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
0x00000070: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
0x00000080: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
0x00000090: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
0x000000A0: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
0x000000B0: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
0x000000C0: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
0x000000D0: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
0x000000E0: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00

```

Call Stack + Locals Memory 1

Simulation t1: 0.00000000 sec

C:\Users\Mahmoud El-Sakka\Desktop\COURSES_and_MATERIAL\2208\aa.uvproj - µVision4

File Edit View Project Flash Debug Peripherals Tools SVCS Window Help

Registers Disassembly

Register	Value
Current	0x00000000
R0	0x00000000
R1	0x00000000
R2	0x00000000
R3	0x00000000
R4	0x00000000
R5	0x00000000
R6	0x00000000
R7	0x00000000
R8	0x00000000
R9	0x00000000
R10	0x00000000
R11	0x00000000
R12	0x00000000
R13(SP)	0x000007F8
R14(LR)	0x00000000
R15(PC)	0x00000008
CPSR	0x00000003
SPSR	0x00000000
User/System	
Fast Interrupt	
Interrupt	
Supervisor	
Abort	
Undefined	
Internal	
PC \$	0x00000008
Mode	Supervisor
States	2
Sec	0.00000000

```

4:   ADR    r0,table1 ; r0 points to source
5:   ADR    r1,table2 ; r1 points to the destination
6:   LDMFD  r0!,r3-r10 ; REPEAT Load 32 bytes in 8 registers (r3 to r10)
7:   Loop   LDMFD  r0!,r3-r10 ; REPEAT Load 32 bytes in 8 registers (r3 to r10)
8:   STMEA  r1!,r3-r10 ; store the registers at their destination
9:   SUBS   r2,r2,#1 ; decrement loop counter
10:  BNE    Loop   ; UNTIL all 2 blocks of 8 registers moved
11:  Inf    B     Inf
12:  table1 dcb "abcdefghijkl2345678ABCDEFGHI2345678"
13:  dcb "12345678asdflghjk09876543QWERTYUI"
14:  table2 space 64
15:
16:
17:

```

Memory 1

Address: 0

Call Stack + Locals Memory 1

Simulation t1: 0.00000000 sec

C:\Users\Mahmoud El-Sakka\Desktop\COURSES_and_MATERIAL\2208\aa.uvproj - µVision4

File Edit View Project Flash Debug Peripherals Tools SVCS Window Help

Registers Disassembly

Register	Value
Current	0x00000000
R0	0x00000000
R1	0x00000000
R2	0x00000007
R3	0x00000000
R4	0x00000000
R5	0x00000000
R6	0x00000000
R7	0x00000000
R8	0x00000000
R9	0x00000000
R10	0x00000000
R11	0x00000000
R12	0x00000000
R13(SP)	0x000007F8
R14(LR)	0x00000000
R15(PC)	0x0000000C
CPSR	0x00000003
SPSR	0x00000000
User/System	
Fast Interrupt	
Interrupt	
Supervisor	
Abort	
Undefined	
Internal	
PC \$	0x0000000C
Mode	Supervisor
States	3
Sec	0.00000000

```

4:   ADR    r0,table1 ; r0 points to source
5:   ADR    r1,table2 ; r1 points to the destination
6:   LDMFD  r0!,r3-r10 ; REPEAT Load 32 bytes in 8 registers (r3 to r10)
7:   Loop   LDMFD  r0!,r3-r10 ; REPEAT Load 32 bytes in 8 registers (r3 to r10)
8:   STMEA  r1!,r3-r10 ; store the registers at their destination
9:   SUBS   r2,r2,#1 ; decrement loop counter
10:  BNE    Loop   ; UNTIL all 2 blocks of 8 registers moved
11:  Inf    B     Inf
12:  table1 dcb "abcdefghijkl2345678ABCDEFGHI2345678"
13:  dcb "12345678asdflghjk09876543QWERTYUI"
14:  table2 space 64
15:
16:
17:

```

Memory 1

Address: 0

Call Stack + Locals Memory 1

Simulation t1: 0.00000000 sec

C:\Users\Mahmoud El-Sakka\Desktop\COURSES_and_MATERIAL\2208\aa.uvproj - µVision4

File Edit View Project Flash Debug Peripherals Tools SVCS Window Help

Registers Disassembly

Register	Value
R0	0x00000040
R1	0x00000060
R2	0x00000002
R3	0x01626364
R4	0x05566768
R5	0x01323334
R6	0x05363738
R7	0x01424344
R8	0x05464748
R9	0x01323338
R10	0x05363738
R11	0x00000000
R12	0x00000000
R13(SP)	0x00000000
R14(LR)	0x00000000
R15(PC)	0x00000010
CPSR	0x00000003
SPSR	0x00000000
User/System	
+ Fast Interrupt	
+ Interrupt	
+ Supervisor	
+ Abort	
+ Undefined	
Internal	
PC \$	0x00000010
Mode	Supervisor
States	13
Sec	0.00000000

```

4:   ADR    r0,table1 ; r0 points to source
5:   ADR    r1,table2 ; r1 points to the destination
6:   MOV    r2,#2      ; 2 blocks of 8 words = 16 words (64 bytes) to move
7:   Loop   LDMFD  r0!,{r3-r10}; REPEAT Load 32 bytes in 8 registers (r3 to r10)
8:   STMEA r1!,{r3-r10}; store the registers at their destination
9:   SUBS  r2,r2,#1    ; decrement loop counter
10:  BNE   r0,{r3-r10}; UNTIL all 2 blocks of 8 registers moved
11:  Inf   B     Inf
12:  table1 dcb "abcdefghijkl2345678ABCDEFGH12345678"
13:  dcb "12345678asdflghjk09876543QWERTYUI"
14:  table2 space 64
15:
16:  END
17

```

Memory 1

Address: 0

Call Stack + Locals Memory 1

Simulation t1: 0.00000000 sec

C:\Users\Mahmoud El-Sakka\Desktop\COURSES_and_MATERIAL\2208\aa.uvproj - µVision4

File Edit View Project Flash Debug Peripherals Tools SVCS Window Help

Registers Disassembly

Register	Value
R0	0x00000040
R1	0x00000060
R2	0x00000002
R3	0x01626364
R4	0x05566768
R5	0x01323334
R6	0x05363738
R7	0x01424344
R8	0x05464748
R9	0x01323338
R10	0x05363738
R11	0x00000000
R12	0x00000000
R13(SP)	0x00000000
R14(LR)	0x00000000
R15(PC)	0x00000014
CPSR	0x00000003
SPSR	0x00000000
User/System	
+ Fast Interrupt	
+ Interrupt	
+ Supervisor	
+ Abort	
+ Undefined	
Internal	
PC \$	0x00000014
Mode	Supervisor
States	22
Sec	0.00000000

```

4:   ADR    r0,table1 ; r0 points to source
5:   ADR    r1,table2 ; r1 points to the destination
6:   MOV    r2,#2      ; 2 blocks of 8 words = 16 words (64 bytes) to move
7:   Loop   LDMFD  r0!,{r3-r10}; REPEAT Load 32 bytes in 8 registers (r3 to r10)
8:   STMEA r1!,{r3-r10}; store the registers at their destination
9:   SUBS  r2,r2,#1    ; decrement loop counter
10:  BNE   r0,{r3-r10}; UNTIL all 2 blocks of 8 registers moved
11:  Inf   B     Inf
12:  table1 dcb "abcdefghijkl2345678ABCDEFGH12345678"
13:  dcb "12345678asdflghjk09876543QWERTYUI"
14:  table2 space 64
15:
16:  END
17

```

Memory 1

Address: 0

Call Stack + Locals Memory 1

Simulation t1: 0.00000000 sec

C:\Users\Mahmoud El-Sakka\Desktop\COURSES_and_MATERIAL\2208\aa.uvproj - µVision4

File Edit View Project Flash Debug Peripherals Tools SVCS Window Help

Registers Disassembly

Register	Value
Current	0x00000000
R0	0x00000040
R1	0x00000000
R2	0x00000001
R3	0x1626364
R4	0x5666768
R5	0x1323334
R6	0x5363738
R7	0x1424344
R8	0x1323334
R9	0x5363738
R10	0x5363738
R11	0x00000000
R12	0x00000000
R13(SP)	0x00000000
R14(LR)	0x00000000
R15(PC)	0x00000018
CPSR	0x00000003
User/System	
+ Fast Interrupt	
+ Interrupt	
+ Supervisor	
+ Abort	
+ Undefined	
Internal	
PC \$	0x00000018
Mode \$	Supervisor
States	23
Sec	0.00000000

```

4:   ADR    r0,table1 ; r0 points to source
5:   ADR    r1,table2 ; r1 points to the destination
6:   MOV    r2,#2       ; 2 blocks of 8 words = 16 words (64 bytes) to move
7: Loop  LDMFD  r0!,r3-r10; REPEAT Load 32 bytes in 8 registers (r3 to r10)
8:   STMEA r1!,r3-r10; store the registers at their destination
9:   SUBS  r2,r2,#1   ; decrement loop counter
10:  BNE   Loop    ; UNTIL all 2 blocks of 8 registers moved
11: Inf   B      Inf
12:  table1 dcb "abcdefghijklmnopqrstuvwxyzABCDEFGHIJKLMNOPQRSTUVWXYZ"
13:  dcb "12345678asdflghjk09876543QWERTYUI"
14:  table2 space 64
15:
16: END
17

```

Memory 1

Address: 0

```

0x00000000: E2 8F 00 18 E2 8F 10 8E E9 A0 20 02 E8 B0 0F F8
0x00000010: E8 A1 07 F8 E2 52 20 01 1A FF FF FB EA FF FF FE
0x00000020: E1 62 63 64 65 66 67 68 31 32 33 34 35 36 37 38
0x00000030: 41 42 43 44 45 46 47 48 31 32 33 34 35 36 37 38
0x00000040: 31 32 33 34 35 36 37 38 61 73 64 66 67 68 6A 6B
0x00000050: 30 39 38 37 36 35 34 33 51 57 45 52 54 59 55 49
0x00000060: 61 62 63 64 65 66 67 68 31 32 33 34 35 36 37 38
0x00000070: 41 42 43 44 45 46 47 48 31 32 33 34 35 36 37 38
0x00000080: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
0x00000090: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
0x000000A0: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
0x000000B0: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00

```

Call Stack + Locals Memory 1

Simulation t1: 0.00000000 sec

C:\Users\Mahmoud El-Sakka\Desktop\COURSES_and_MATERIAL\2208\aa.uvproj - µVision4

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Registers Disassembly

Register	Value
Current	0x00000000
R0	0x00000040
R1	0x00000000
R2	0x00000001
R3	0x1626364
R4	0x5666768
R5	0x1323334
R6	0x5363738
R7	0x1424344
R8	0x5464748
R9	0x1323334
R10	0x5363738
R11	0x00000000
R12	0x00000000
R13(SP)	0x00000000
R14(LR)	0x00000000
R15(PC)	0x00000000
CPSR	0x00000003
User/System	
+ Fast Interrupt	
+ Interrupt	
+ Supervisor	
+ Abort	
+ Undefined	
Internal	
PC \$	0x0000000C
Mode \$	Supervisor
States	26
Sec	0.00000000

```

4:   ADR    r0,table1 ; r0 points to source
5:   ADR    r1,table2 ; r1 points to the destination
6:   MOV    r2,#2       ; 2 blocks of 8 words = 16 words (64 bytes) to move
7: Loop  LDMFD  r0!,r3-r10; REPEAT Load 32 bytes in 8 registers (r3 to r10)
8:   STMEA r1!,r3-r10; store the registers at their destination
9:   SUBS  r2,r2,#1   ; decrement loop counter
10:  BNE   Loop    ; UNTIL all 2 blocks of 8 registers moved
11: Inf   B      Inf
12:  table1 dcb "abcdefghijklmnopqrstuvwxyzABCDEFGHIJKLMNOPQRSTUVWXYZ"
13:  dcb "12345678asdflghjk09876543QWERTYUI"
14:  table2 space 64
15:
16: END
17

```

Memory 1

Address: 0

```

0x00000000: E2 8F 00 18 E2 8F 10 8E E9 A0 20 02 E8 B0 0F F8
0x00000010: E8 A1 07 F8 E2 52 20 01 1A FF FF FB EA FF FF FE
0x00000020: E1 62 63 64 65 66 67 68 31 32 33 34 35 36 37 38
0x00000030: 41 42 43 44 45 46 47 48 31 32 33 34 35 36 37 38
0x00000040: 31 32 33 34 35 36 37 38 61 73 64 66 67 68 6A 6B
0x00000050: 30 39 38 37 36 35 34 33 51 57 45 52 54 59 55 49
0x00000060: 61 62 63 64 65 66 67 68 31 32 33 34 35 36 37 38
0x00000070: 41 42 43 44 45 46 47 48 31 32 33 34 35 36 37 38
0x00000080: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
0x00000090: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
0x000000A0: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
0x000000B0: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00

```

Call Stack + Locals Memory 1

Simulation t1: 0.00000000 sec

C:\Users\Mahmoud El-Sakka\Desktop\COURSES_and_MATERIAL\2208ya.uvproj - uVision

Registers Disassembly

```

Register Value
Current
R0 0x00000060
R1 0x00000001
R2 0x00000001
R3 0x132334
R4 0x3533738
R5 0x1768466
R6 0x7686468
R7 0x03038337
R8 0x00000000
R9 0x1574562
R10 0x4595549
R11 0x00000000
R12 0x00000000
R13(SP) 0x00000000
R14(LR) 0x00000000
R15(PC) 0x00000010
CPSR 0x20000003
SPSR 0x00000000
User/System
Fast Interrupt
Interrupt
Supervisor
Abort
Undefined
Internal
PC $ 0x00000010
Mode Supervisor
States 36
Sec 0.00000000

4: ADR r0,table1 ; r0 points to source
5: ADR r1,table2 ; r1 points to the destination
6: MOV r2,#2 ; 2 blocks of 8 words = 16 words (64 bytes) to move
7: Loop LDMFD r0!,{r3-r10} ; REPEAT Load 32 bytes in 8 registers (r3 to r10)
8: STMEA r1!,{r3-r10} ; store the registers at their destination
9: SUBS r2,r2,#1 ; decrement loop counter
10: BNE Loop ; UNTIL all 2 blocks of 8 registers moved
11: Inf B Inf
12: table1 dcb "abcdefghijkl2345678ABCDEFGHI12345678"
13: dcb "12345678asdfghjk09876543QWERTYUI"
14: table2 space 64
15:
16:
17:

```

Memory 1

Address 0

0x00000000: E2 8F 00 18 E2 8F 20 02 E8 B0 07 F8
0x00000001: E8 A1 07 F8 E2 52 20 01 1A FF FF FB EA FF FF FE
0x00000020: 61 63 64 65 66 67 68 31 32 33 34 35 36 37 38
0x00000030: 41 42 43 44 45 46 47 48 31 32 33 34 35 36 37 38
0x00000040: 31 32 33 34 35 36 37 38 61 73 64 66 67 68 6A 6B
0x00000050: 30 31 32 33 34 35 36 37 62 63 64 65 66 67 68 69
0x00000060: 61 62 63 64 65 66 67 68 31 32 33 34 35 36 37 38
0x00000070: 41 42 43 44 45 46 47 48 31 32 33 34 35 36 37 38
0x00000080: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
0x00000090: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
0x000000A0: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
0x000000B0: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
0x000000C0: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00

Call Stack + Locals Memory 1

Address 0

0x00000000: E2 8F 00 18 E2 8F 20 02 E8 B0 07 F8
0x00000001: E8 A1 07 F8 E2 52 20 01 1A FF FF FB EA FF FF FE
0x00000020: 61 63 64 65 66 67 68 31 32 33 34 35 36 37 38
0x00000030: 41 42 43 44 45 46 47 48 31 32 33 34 35 36 37 38
0x00000040: 31 32 33 34 35 36 37 38 61 73 64 66 67 68 6A 6B
0x00000050: 30 31 32 33 34 35 36 37 62 63 64 65 66 67 68 69
0x00000060: 61 62 63 64 65 66 67 68 31 32 33 34 35 36 37 38
0x00000070: 41 42 43 44 45 46 47 48 31 32 33 34 35 36 37 38
0x00000080: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
0x00000090: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
0x000000A0: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
0x000000B0: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
0x000000C0: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00

Simulation t1: 0.00000000 sec

C:\Users\Mahmoud El-Sakka\Desktop\COURSES_and_MATERIAL\2208ya.uvproj - uVision

Registers Disassembly

```

Register Value
Current
R0 0x00000060
R1 0x00000040
R2 0x00000001
R3 0x132334
R4 0x3533738
R5 0x1768466
R6 0x7686468
R7 0x03038337
R8 0x00000000
R9 0x1574562
R10 0x4595549
R11 0x00000000
R12 0x00000000
R13(SP) 0x00000000
R14(LR) 0x00000000
R15(PC) 0x00000010
CPSR 0x20000003
SPSR 0x00000000
User/System
Fast Interrupt
Interrupt
Supervisor
Abort
Undefined
Internal
PC $ 0x00000014
Mode Supervisor
States 45
Sec 0.00000000

4: ADR r0,table1 ; r0 points to source
5: ADR r1,table2 ; r1 points to the destination
6: MOV r2,#2 ; 2 blocks of 8 words = 16 words (64 bytes) to move
7: Loop LDMFD r0!,{r3-r10} ; REPEAT Load 32 bytes in 8 registers (r3 to r10)
8: STMEA r1!,{r3-r10} ; store the registers at their destination
9: SUBS r2,r2,#1 ; decrement loop counter
10: BNE Loop ; UNTIL all 2 blocks of 8 registers moved
11: Inf B Inf
12: table1 dcb "abcdefghijkl2345678ABCDEFGHI12345678"
13: dcb "12345678asdfghjk09876543QWERTYUI"
14: table2 space 64
15:
16:
17:

```

Memory 1

Address 0

0x00000000: E2 8F 00 18 E2 8F 20 02 E8 B0 07 F8
0x00000001: E8 A1 07 F8 E2 52 20 01 1A FF FF FB EA FF FF FE
0x00000020: 61 63 64 65 66 67 68 31 32 33 34 35 36 37 38
0x00000030: 41 42 43 44 45 46 47 48 31 32 33 34 35 36 37 38
0x00000040: 31 32 33 34 35 36 37 38 61 73 64 66 67 68 6A 6B
0x00000050: 30 31 32 33 34 35 36 37 62 63 64 65 66 67 68 69
0x00000060: 61 62 63 64 65 66 67 68 31 32 33 34 35 36 37 38
0x00000070: 41 42 43 44 45 46 47 48 31 32 33 34 35 36 37 38
0x00000080: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
0x00000090: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
0x000000A0: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
0x000000B0: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
0x000000C0: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00

Call Stack + Locals Memory 1

Address 0

0x00000000: E2 8F 00 18 E2 8F 20 02 E8 B0 07 F8
0x00000001: E8 A1 07 F8 E2 52 20 01 1A FF FF FB EA FF FF FE
0x00000020: 61 63 64 65 66 67 68 31 32 33 34 35 36 37 38
0x00000030: 41 42 43 44 45 46 47 48 31 32 33 34 35 36 37 38
0x00000040: 31 32 33 34 35 36 37 38 61 73 64 66 67 68 6A 6B
0x00000050: 30 31 32 33 34 35 36 37 62 63 64 65 66 67 68 69
0x00000060: 61 62 63 64 65 66 67 68 31 32 33 34 35 36 37 38
0x00000070: 41 42 43 44 45 46 47 48 31 32 33 34 35 36 37 38
0x00000080: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
0x00000090: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
0x000000A0: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
0x000000B0: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
0x000000C0: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00

Simulation t1: 0.00000000 sec

C:\Users\Mahmoud_El-Sakka\Desktop\COURSES_and_MATERIAL\2208\aa.uvproj - µVision4

Registers Disassembly

```

Register Value
Current
R0 0x00000060
R1 0x000000A0
R2 0x00000004 E28F0104 ADD R0,PC,#0x00000018
R3 0x01323334 E3A02002 MOV r2,#2 ; 2 blocks of 8 words = 16 words (64 bytes) to move
R4 0x035363738 E3A02002 MOV r2,#2 ; 2 blocks of 8 words = 16 words (64 bytes) to move
R5 0x01736466 E3A02002 MOV r2,#2 ; 2 blocks of 8 words = 16 words (64 bytes) to move
R6 0x0769646B E3A02002 MOV r2,#2 ; 2 blocks of 8 words = 16 words (64 bytes) to move
R7 0x03038337 E3A02002 MOV r2,#2 ; 2 blocks of 8 words = 16 words (64 bytes) to move
R8 0x03633433 E3A02002 MOV r2,#2 ; 2 blocks of 8 words = 16 words (64 bytes) to move
R9 0x01517452 E3A02002 MOV r2,#2 ; 2 blocks of 8 words = 16 words (64 bytes) to move
R10 0x04595549 Inf B Inf
R11 0x00000000 E2AFFFTE ADD r0,PC,#0x0000001C
R12 0x00000000 61626364 ??7VS
R13(SP) 0x00000000 65666768 STRVSB R6,[R6,#-0x0768]!
R14(LR) 0x00000000 31323334 TEQCC R2,R4,LSR R3
R15(PC) 0x00000018 35363738 LDRC R5,[R6,#-0x0738]!
CPSR 0x00000003
SPSR 0x00000000
User/System
Fast Interrupt
Interrupt
Supervisor
Abort
Undefined
Internal
PC $ 0x00000018
Mode Supervisor
States 46
Sec 0.00000000

```

```

4: ADR r0,table1 ; r0 points to source
5: ADR r1,table2 ; r1 points to the destination
6: MOV r2,#2 ; 2 blocks of 8 words = 16 words (64 bytes) to move
7: Loop LDMFD r0!,r3-r10; ; REPEAT Load 32 bytes in 8 registers (r3 to r10)
8: STMEA r1!,r3-r10; ; store the registers at their destination
9: SUBS r2,r2,#1 ; decrement loop counter
10: BNE Loop ; UNTIL all 2 blocks of 8 registers moved
11: Inf B Inf
12: table1 dcb "abcdefghijkl2345678ABCDEFGHI2345678"
13: dcb "12345678asdflghjk09876543QWERTYUI"
14: table2 space 64
15:
16:
17:

```

Memory 1

Address: 0

Call Stack + Locals Memory 1

Simulation t1: 0.00000000 sec

C:\Users\Mahmoud_El-Sakka\Desktop\COURSES_and_MATERIAL\2208\aa.uvproj - µVision4

Registers Disassembly

```

Register Value
Current
R0 0x00000060
R1 0x000000A0
R2 0x00000004 E28F0104 ADD R0,PC,#0x00000018
R3 0x01323334 E3A02002 MOV r2,#2 ; 2 blocks of 8 words = 16 words (64 bytes) to move
R4 0x035363738 E3A02002 MOV r2,#2 ; 2 blocks of 8 words = 16 words (64 bytes) to move
R5 0x01736466 E3A02002 MOV r2,#2 ; 2 blocks of 8 words = 16 words (64 bytes) to move
R6 0x0769646B E3A02002 MOV r2,#2 ; 2 blocks of 8 words = 16 words (64 bytes) to move
R7 0x03038337 E3A02002 MOV r2,#2 ; 2 blocks of 8 words = 16 words (64 bytes) to move
R8 0x03633433 E3A02002 MOV r2,#2 ; 2 blocks of 8 words = 16 words (64 bytes) to move
R9 0x01517452 E3A02002 MOV r2,#2 ; 2 blocks of 8 words = 16 words (64 bytes) to move
R10 0x04595549 Inf B Inf
R11 0x00000000 E2AFFFTE ADD r0,PC,#0x0000001C
R12 0x00000000 61626364 ??7VS
R13(SP) 0x00000000 65666768 STRVSB R6,[R6,#-0x0768]!
R14(LR) 0x00000000 31323334 TEQCC R2,R4,LSR R3
R15(PC) 0x0000001C 35363738 LDRC R5,[R6,#-0x0738]!
CPSR 0x00000003
SPSR 0x00000000
User/System
Fast Interrupt
Interrupt
Supervisor
Abort
Undefined
Internal
PC $ 0x0000001C
Mode Supervisor
States 47
Sec 0.00000000

```

```

1 AREA BlockMove, CODE, READONLY
2
3 ENTRY
4 ADR r0,table1 ; r0 points to source
5 ADR r1,table2 ; r1 points to the destination
6 MOV r2,#2 ; 2 blocks of 8 words = 16 words (64 bytes) to move
7 Loop LDMFD r0!,r3-r10; ; REPEAT Load 32 bytes in 8 registers (r3 to r10)
8 STMEA r1!,r3-r10; ; store the registers at their destination
9 SUBS r2,r2,#1 ; decrement loop counter
10 BNE Loop ; UNTIL all 2 blocks of 8 registers moved
11 Inf B Inf
12 table1 dcb "abcdefghijkl2345678ABCDEFGHI2345678"
13 dcb "12345678asdflghjk09876543QWERTYUI"
14 table2 space 64
15
16
17

```

Memory 1

Address: 0

Call Stack + Locals Memory 1

Order was kept

Simulation t1: 0.00000000 sec