Microprocessor and Computer Architecture

UE23CS251B

4th Semester, Academic Year 2024-25

Date: 26/01/2025

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Week#____2_____ Assignment Program : ____1___

Title of the Program

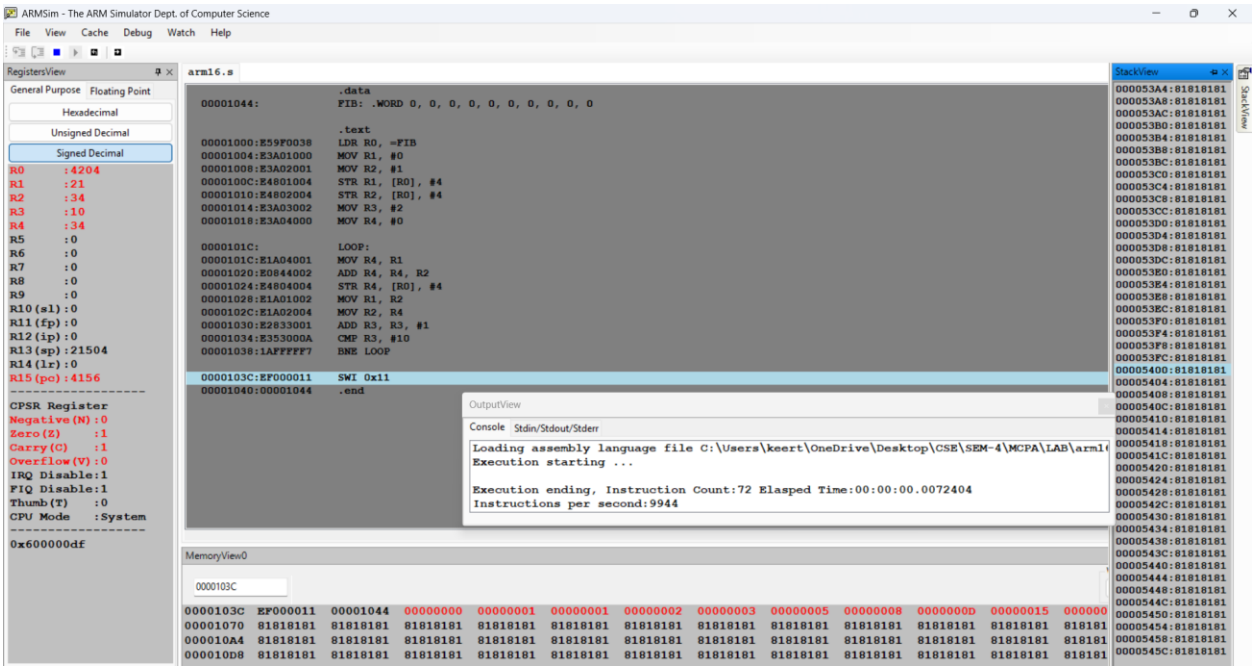
Write an ALP using ARM7TDMI to generate Fibonacci series of n (Let n be any value >=5)numbers and store it in the memory location

I. ARM Assembly Code(1)

```
.data
FIB: .WORD 0, 0, 0, 0, 0, 0, 0, 0, 0, 0


.text
LDR R0, =FIB
MOV R1, #0
MOV R2, #1
STR R1, [R0], #4
STR R2, [R0], #4
```

```
MOV R3, #2
MOV R4, #0

LOOP:
MOV R4, R1
ADD R4, R4, R2
STR R4, [R0], #4
MOV R1, R2
MOV R2, R4
ADD R3, R3, #1
CMP R3, #10
BNE LOOP

SWI 0x11
.end
```

.Output Screen Shot (2)



Week#____2_____ Assignment Program : ____2___

Title of the Program

Write an ALP using ARM7TDMI to multiplication of 32X50 without using MUL instructions.

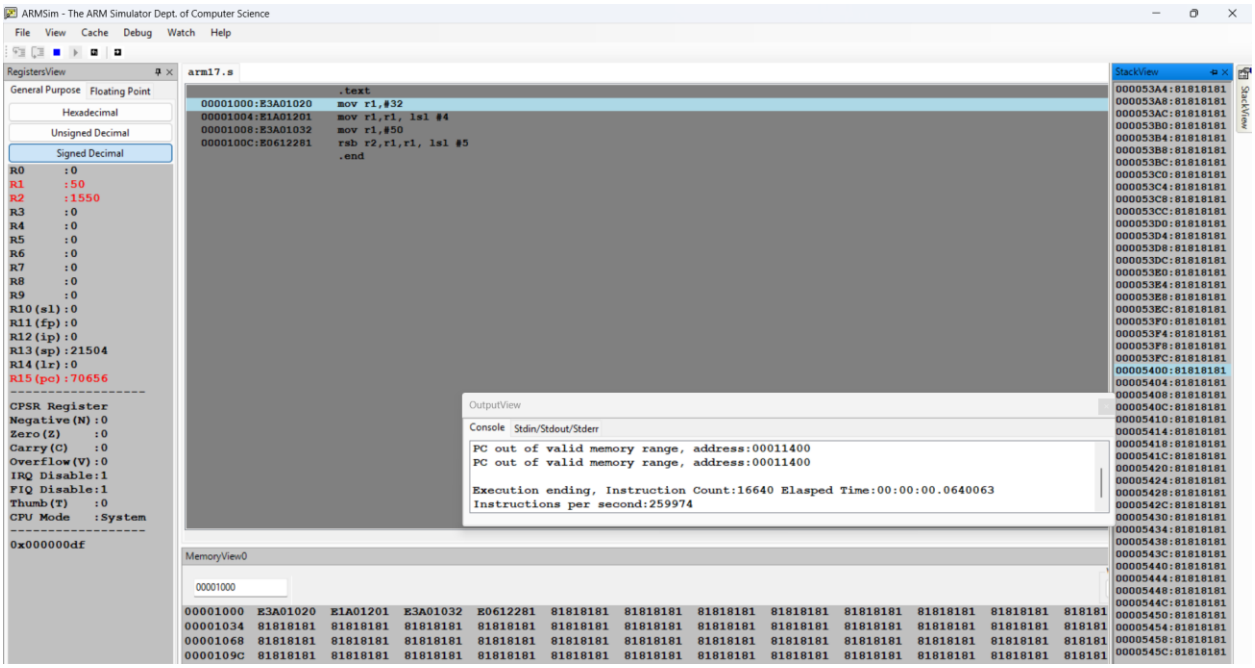
(Hint: barrel shift instructions.)

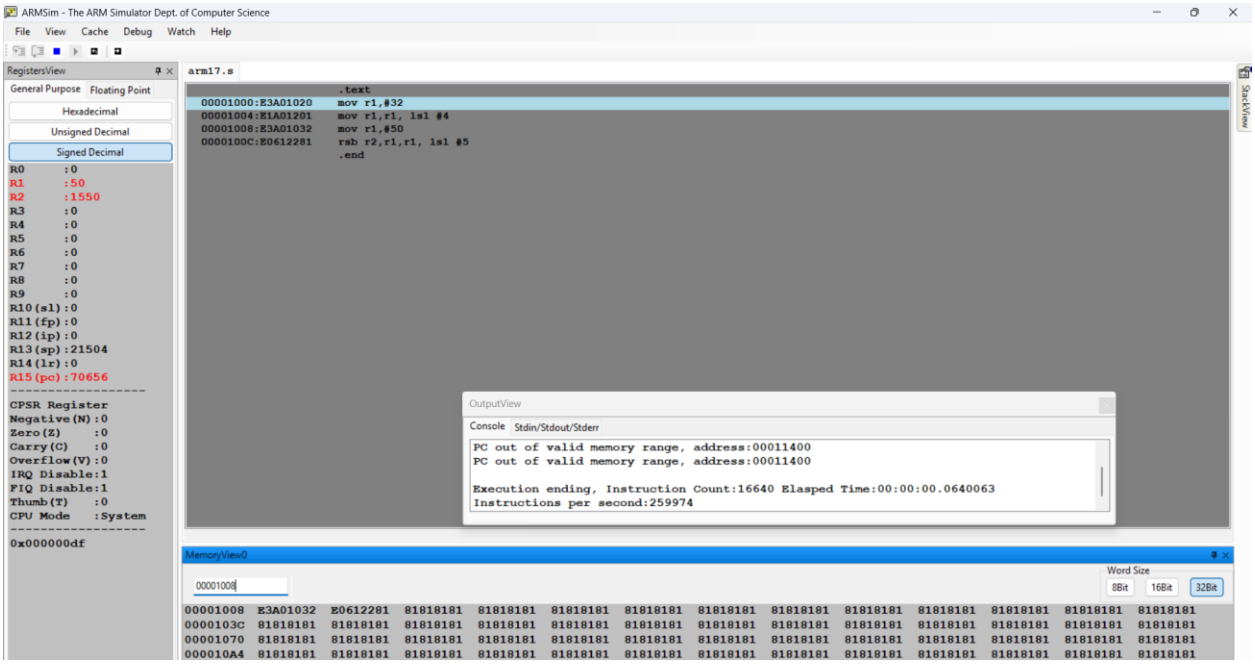
(Note :any number can be considered as multiplier)

I. ARM Assembly Code(1)

```
.text
mov r1,#32
mov r1,r1, lsl #4
mov r1,#50
rsb r2,r1,r1, lsl #5
.end
```

II. Output Screen Shots (2)





Disclaimer:

- The programs and output submitted is duly written, verified and executed by me.

- I have not copied from any of my peers nor from the external resource such as internet.
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