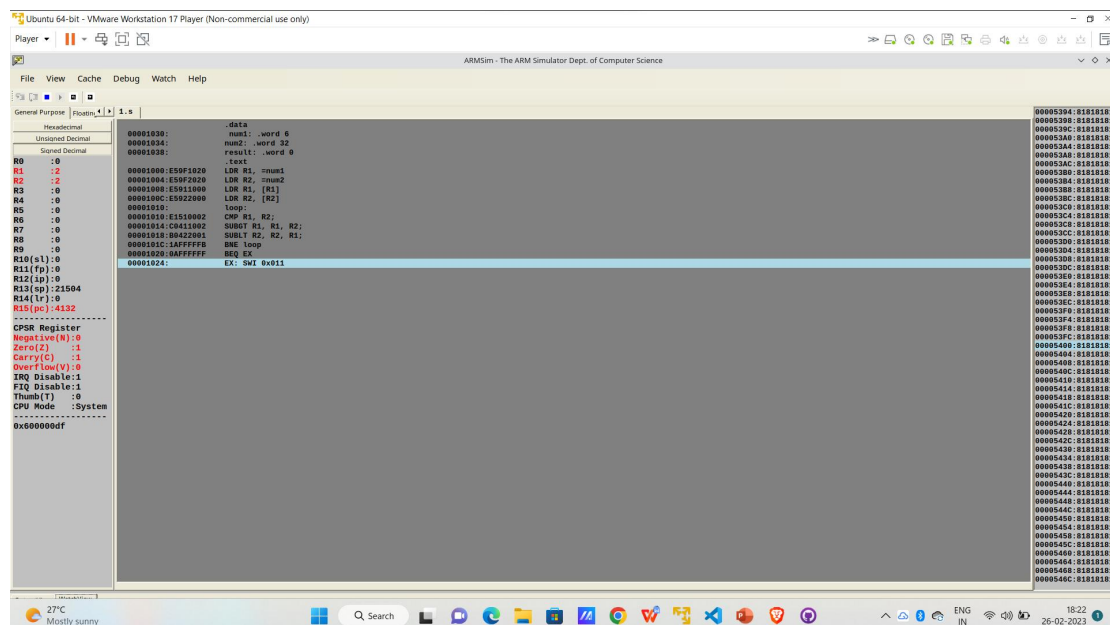


LAB 2

NAME = RACHAPPA
SRN = PES1UG19CS359
ROLLNO ==1

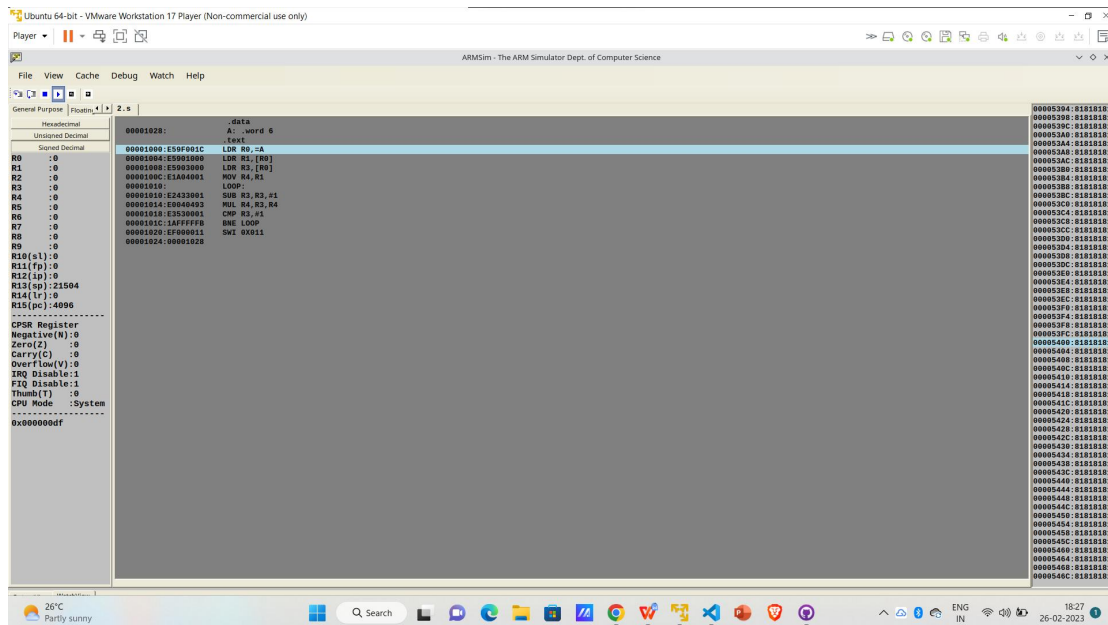
1.Implementation of ARM7TDMI code for GCD

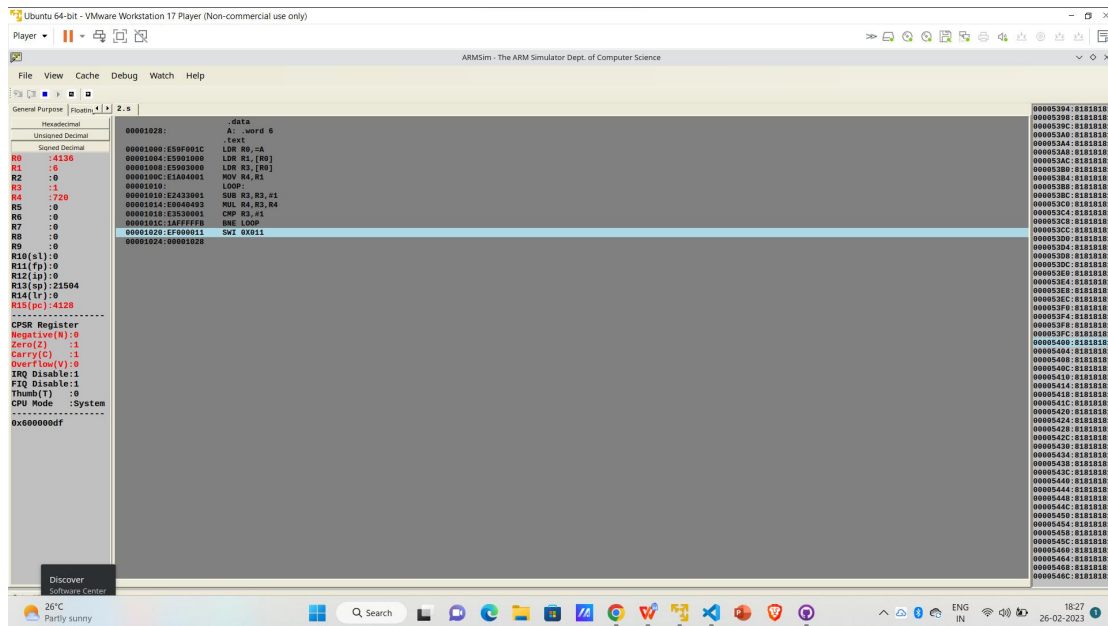
```
.data
num1: .word 6
num2: .word 32
result: .word 0
.text
LDR R1, =num1
LDR R2, =num2
LDR R1, [R1]
LDR R2, [R2]
loop:
CMP R1, R2;
SUBGT R1, R1, R2;
SUBLT R2, R2, R1;
BNE loop
BEQ EX
EX: SWI 0x011
```



2..Implementation of ARM7TDMI code for factorial.

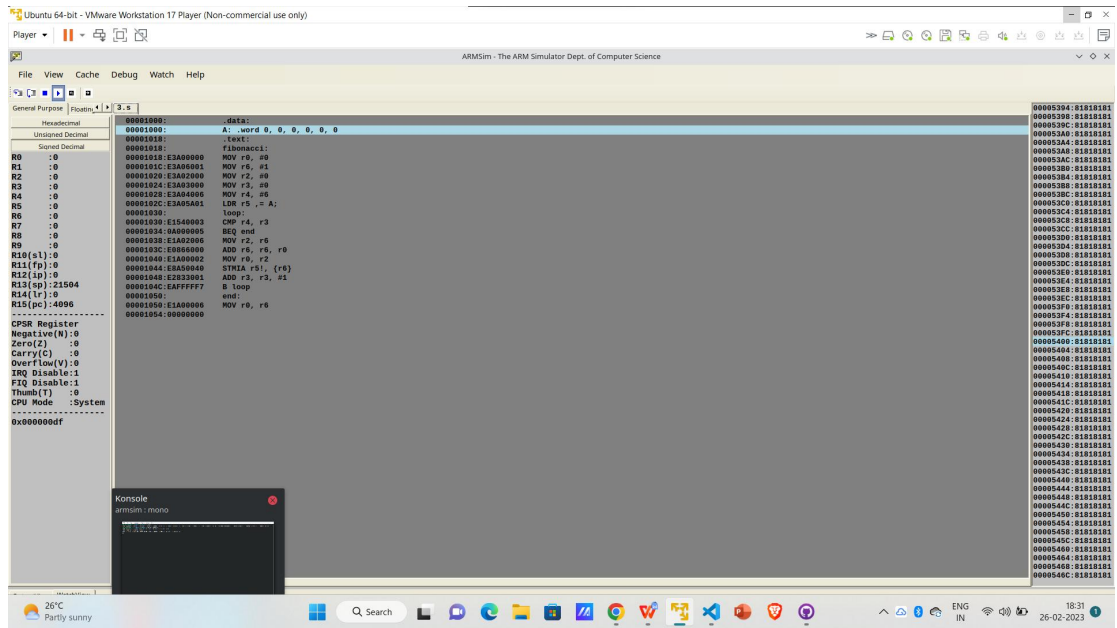
```
.data
A: .word 6
.text
LDR R0, =A
LDR R1, [R0]
LDR R3, [R0]
MOV R4, R1
LOOP:
SUB R3, R3, #1
MUL R4, R3, R4
CMP R3, #1
BNE LOOP
SWI 0X011
```





3. Implementation of ARM7TDMI code to generate Fibonacci series,

```
.data:
A: .word 0, 0, 0, 0, 0, 0
.text:
fibonacci:
MOV r0, #0
MOV r6, #1
MOV r2, #0
MOV r3, #0
MOV r4, #6
LDR r5, = A;
loop:
CMP r4, r3
BEQ end
MOV r2, r6
ADD r6, r6, r0
MOV r0, r2
STMIA r5!, {r6}
ADD r3, r3, #1
B loop
end:
MOV r0, r6
```



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Player ▾ | 3 s

ARMsim - The ARM Simulator Dept. of Computer Science

File View Cache Debug Watch Help

General Purpose Floating-Point 3 s

Hexadecimal Unsigned Decimal General Decimal

R0 :0
R1 :0
R2 :1
R3 :0
R4 :6
R5 :4096
R6 :1
R7 :0
R8 :0
R9 :0
R10(s1):0
R11(fp):0
R12(ip):0
R13(sp):21504
R14(lr):0
R15(pc):4156

CPUR Register
Negative(N):0
Zero(Z):0
Carry(C):1
Overflow(V):0
IRQ Disable:1
FIQ Disable:1
Thumb(T):0
CPU Mode :System

0x200000ff

00001000: .data:
00001000: A: word 0, 0, 0, 0, 0, 0
00001010: .text:
00001010: fibonacci:
00001018: E3A00000 MOV r0, #0
00001020: E3A02000 MOV r2, #0
00001024: E3A03000 MOV r3, #0
00001028: E3A04000 MOV r4, #0
0000102C: E3A05001 LDR r5, = A;
00001030: Loop:
00001030: E1540003 CMP r4, r3
00001034: 0A000005 BEQ end
00001038: E1A02006 MOV r2, r0
0000103C: E0866000 ADD r6, r6, r0
00001040: E3A00002 MOV r0, r2
00001044: E8A50040 STMI4 r5!, (r6)
00001048: E2833001 ADD r3, r3, #1
0000104C: EAF0FF77 B loop
00001050: end:
00001050: E1A00006 MOV r0, r0
00001054: 00000000

00005304: R1010101
00005308: R1010101
0000530C: R1010101
00005310: R1010101
00005314: R1010101
00005318: R1010101
0000531C: R1010101
00005320: R1010101
00005324: R1010101
00005328: R1010101
0000532C: R1010101
00005330: R1010101
00005334: R1010101
00005338: R1010101
0000533C: R1010101
00005340: R1010101
00005344: R1010101
00005348: R1010101
0000534C: R1010101
00005350: R1010101
00005354: R1010101
00005358: R1010101
0000535C: R1010101
00005360: R1010101
00005364: R1010101
00005368: R1010101
0000536C: R1010101
00005370: R1010101
00005374: R1010101
00005378: R1010101
0000537C: R1010101
00005380: R1010101
00005384: R1010101
00005388: R1010101
0000538C: R1010101
00005390: R1010101
00005394: R1010101
00005398: R1010101
0000539C: R1010101
000053A0: R1010101
000053A4: R1010101
000053A8: R1010101
000053AC: R1010101
000053B0: R1010101
000053B4: R1010101
000053B8: R1010101
000053BC: R1010101
000053C0: R1010101
000053C4: R1010101
000053C8: R1010101
000053CC: R1010101
000053D0: R1010101
000053D4: R1010101
000053D8: R1010101
000053DC: R1010101
000053E0: R1010101
000053E4: R1010101
000053E8: R1010101
000053EC: R1010101
000053F0: R1010101
000053F4: R1010101
000053F8: R1010101
000053FC: R1010101
00005400: R1010101
00005404: R1010101
00005408: R1010101
0000540C: R1010101
00005410: R1010101
00005414: R1010101
00005418: R1010101
0000541C: R1010101
00005420: R1010101
00005424: R1010101
00005428: R1010101
0000542C: R1010101
00005430: R1010101
00005434: R1010101
00005438: R1010101
0000543C: R1010101
00005440: R1010101
00005444: R1010101
00005448: R1010101
0000544C: R1010101
00005450: R1010101
00005454: R1010101
00005458: R1010101
0000545C: R1010101
00005460: R1010101
00005464: R1010101
00005468: R1010101
0000546C: R1010101

26°C Parity sunny

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Player ▾ | 3 s

ARMsim - The ARM Simulator Dept. of Computer Science

File View Cache Debug Watch Help

General Purpose Floating-Point 3 s

Hexadecimal Unsigned Decimal General Decimal

R0 :13
R1 :0
R2 :8
R3 :6
R4 :6
R5 :4120
R6 :13
R7 :0
R8 :0
R9 :0
R10(s1):0
R11(fp):0
R12(ip):0
R13(sp):21504
R14(lr):0
R15(pc):70656

CPUR Register
Negative(N):0
Zero(Z):0
Carry(C):1
Overflow(V):0
IRQ Disable:1
FIQ Disable:1
Thumb(T):0
CPU Mode :System

0x600000ff

00001000: .data:
00001000: A: word 0, 0, 0, 0, 0, 0
00001010: .text:
00001010: fibonacci:
00001018: E3A00000 MOV r0, #0
00001020: E3A02000 MOV r2, #0
00001024: E3A03000 MOV r3, #0
00001028: E3A04000 MOV r4, #0
0000102C: E3A05001 LDR r5, = A;
00001030: Loop:
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00001048: E2833001 ADD r3, r3, #1
0000104C: EAF0FF77 B loop
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00005340: R1010101
00005344: R1010101
00005348: R1010101
0000534C: R1010101
00005350: R1010101
00005354: R1010101
00005358: R1010101
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00005380: R1010101
00005384: R1010101
00005388: R1010101
0000538C: R1010101
00005390: R1010101
00005394: R1010101
00005398: R1010101
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000053A4: R1010101
000053A8: R1010101
000053AC: R1010101
000053B0: R1010101
000053B4: R1010101
000053B8: R1010101
000053BC: R1010101
000053C0: R1010101
000053C4: R1010101
000053C8: R1010101
000053CC: R1010101
000053D0: R1010101
000053D4: R1010101
000053D8: R1010101
000053DC: R1010101
000053E0: R1010101
000053E4: R1010101
000053E8: R1010101
000053EC: R1010101
000053F0: R1010101
000053F4: R1010101
000053F8: R1010101
000053FC: R1010101
00005400: R1010101
00005404: R1010101
00005408: R1010101
0000540C: R1010101
00005410: R1010101
00005414: R1010101
00005418: R1010101
0000541C: R1010101
00005420: R1010101
00005424: R1010101
00005428: R1010101
0000542C: R1010101
00005430: R1010101
00005434: R1010101
00005438: R1010101
0000543C: R1010101
00005440: R1010101
00005444: R1010101
00005448: R1010101
0000544C: R1010101
00005450: R1010101
00005454: R1010101
00005458: R1010101
0000545C: R1010101
00005460: R1010101
00005464: R1010101
00005468: R1010101
0000546C: R1010101

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