Microprocessor and Computer Architecture

UE20CS252

4th Semester, Academic Year 2021-22

Date:

Name: Naman Choudhary	SRN: PES2UG20CS209	Section D

Week#____1_____ Program Number: ____1___

Title of the Program

Write an ALP using ARM instruction set to check if a number stored in a register is even or odd. If even, store 00 in R0, else store FF in R0

I. ARM Assembly Code(1)

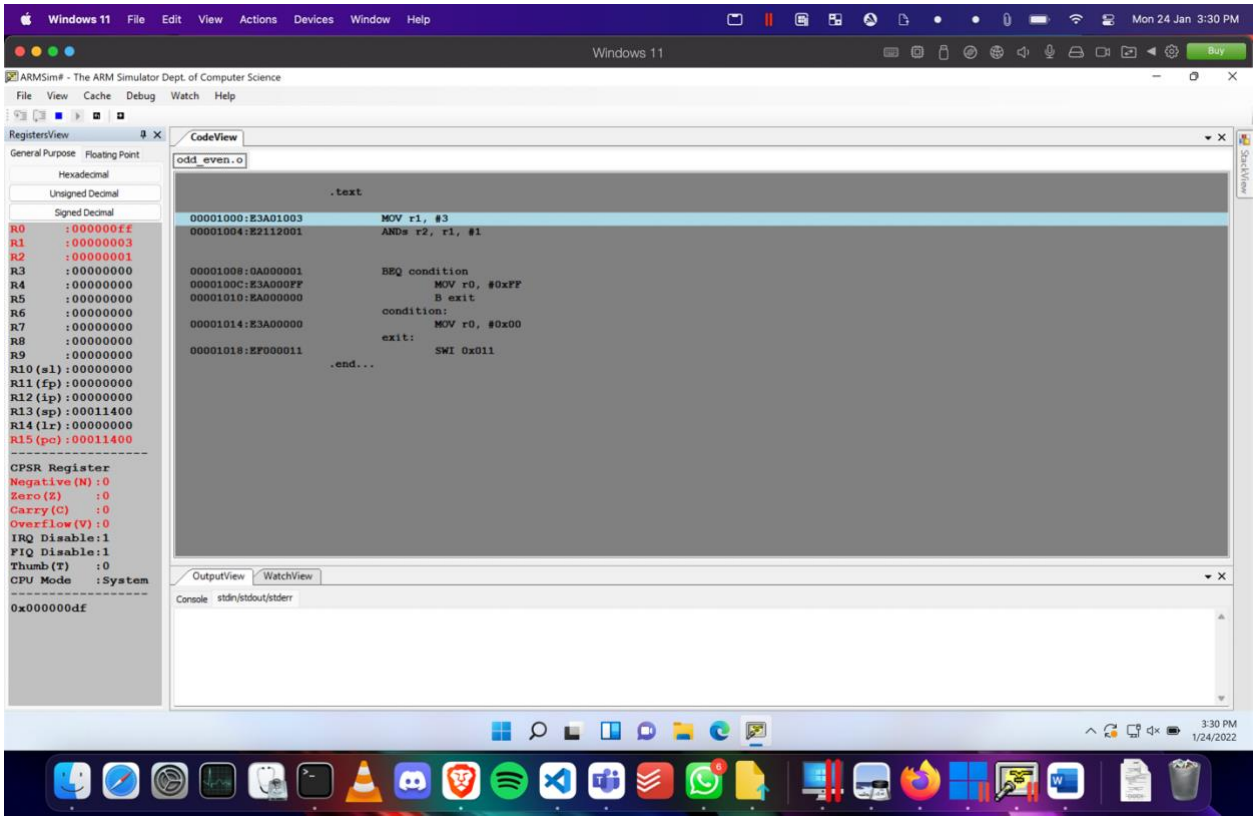
```
.text

    MOV r1, #3
    ANDs r2, r1, #1


    BEQ condition
        MOV r0, #0xFF
        B exit
    condition:
        MOV r0, #0x00
```

```
        exit:
                SWI 0x011
    .end
```

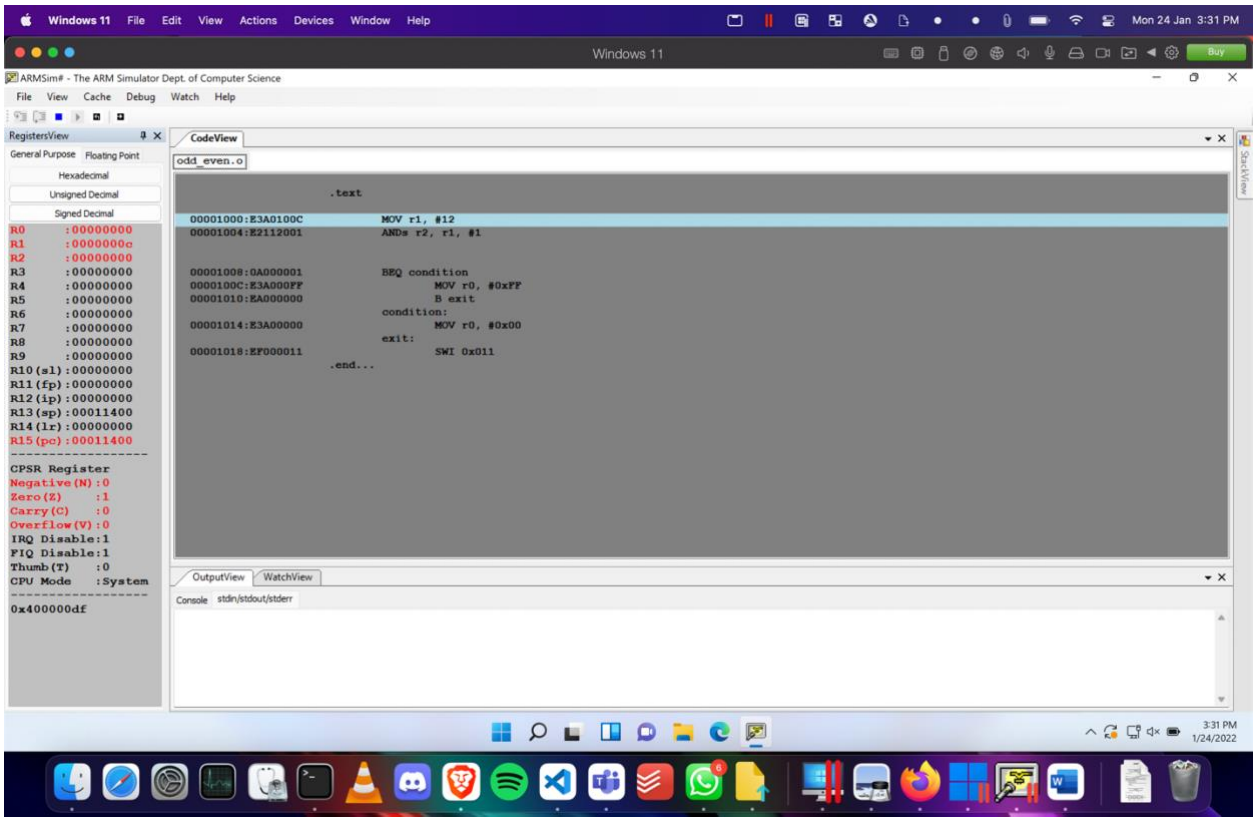
II. Output Screen Shot (1)

The output should be verified for both even and odd numbers.

Odd:



Even:



III. Output table (1)

Included in above screenshots

Microprocessor and Computer Architecture

UE20CS253

4th Semester, Academic Year 2021-22

Date:

Name: Naman Choudhary	SRN:PES2UG20CS209	Section D

Week#____1_____ Program Number: ____2___

Title of the Program

Write an ALP to compare the value of R0 and R1, add if R0 = R1, else subtract

I. ARM Assembly Code(1)

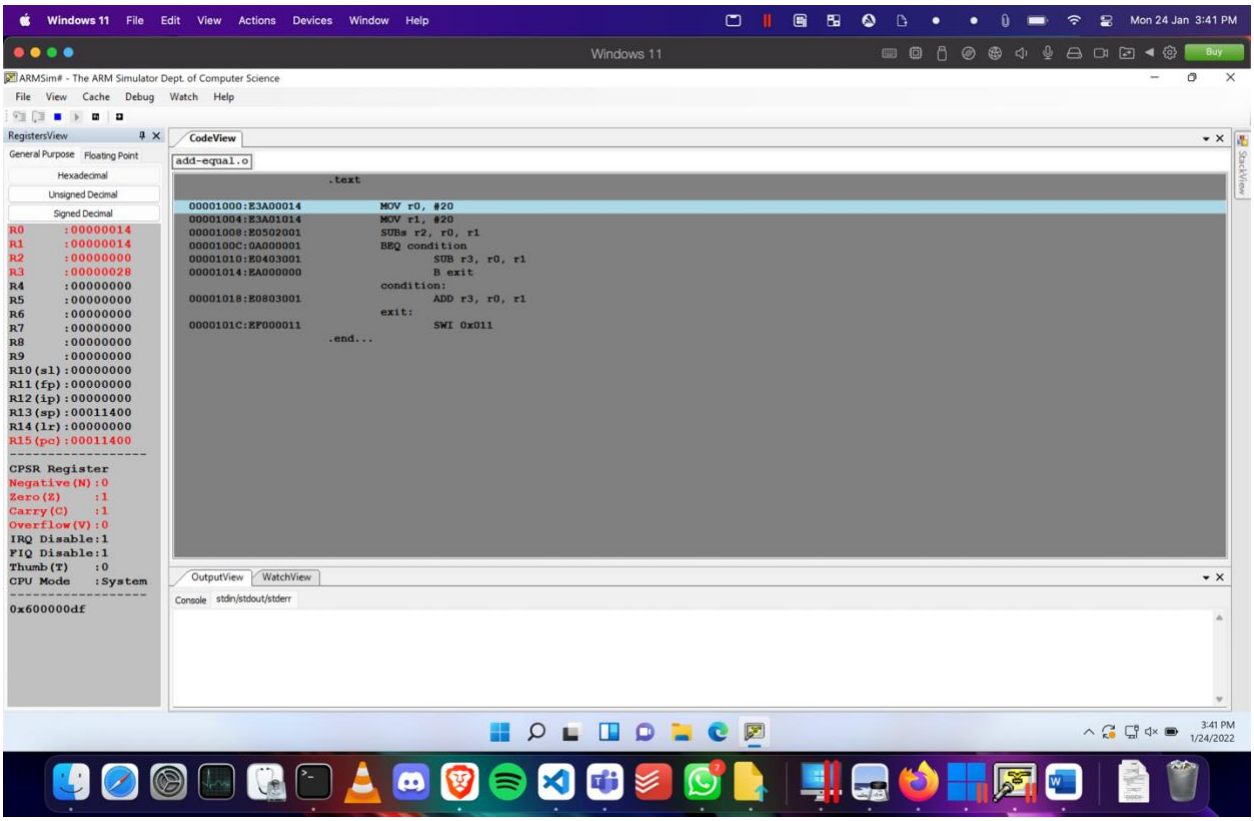
```
.text

    MOV r0, #30
    MOV r1, #10
    SUBs r2, r0, r1
    BEQ condition
        SUB r3, r0, r1
        B exit
```

```
    condition:
        ADD r3, r0, r1
    exit:
        SWI 0x011
.end
```

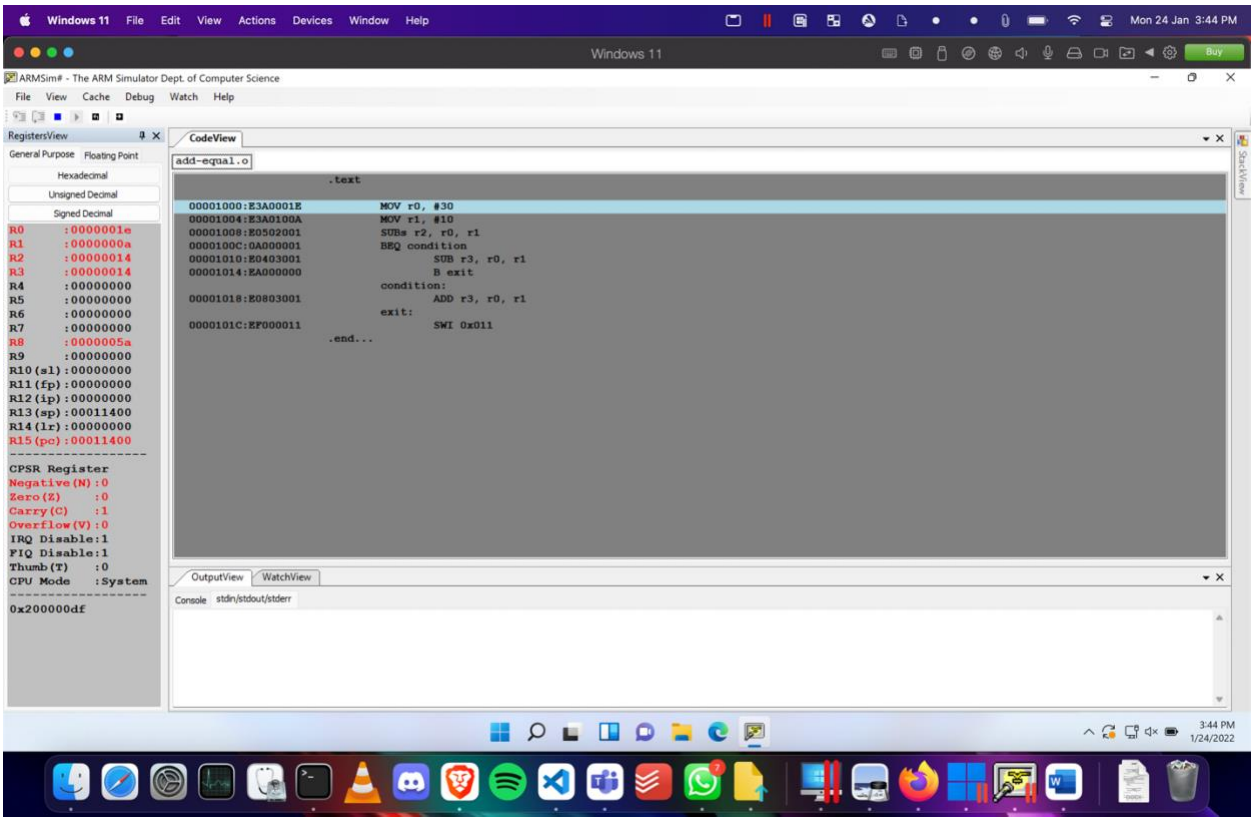
II. Output Screen Shot (1)

The output should be verified for both add and subracting numbers.

Add:



Subtact:



III. Output table (1)

Included in above screenshots

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.
- If found plagiarized, I will abide with the disciplinary action of the University.

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Section: D
Date:24/01/2022