MPCA LAB WEEK-6

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ROLL NO.: 55
SECTION : K
DATE : 03-03-2022

PROGRAM 1 : Write a program in ARM7TDMI-ISA to find the sum of all the digits in an 32 bit number.

CODE:

```
SUM_OF_DEC - Notepad

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.data
A:.word 1234
B:.word 0                   ;SUM OF DIGITS

.text
LDR R0,=A
LDR R1,=B
LDR R2,[R0]
MOV R3,#0
MOV R4,#0
SUBS R2,R2,#10

LOOP:
ADD R3,R3,#1

LOOP1:
MOV R5,R2
SUBS R2,R2,#10
BPL LOOP
ADD R4,R4,R5
MOV R2,R3
MOV R3,#0
CMP R2,#0
BNE LOOP1

STR R4,[R1]
SWI 0X11
```
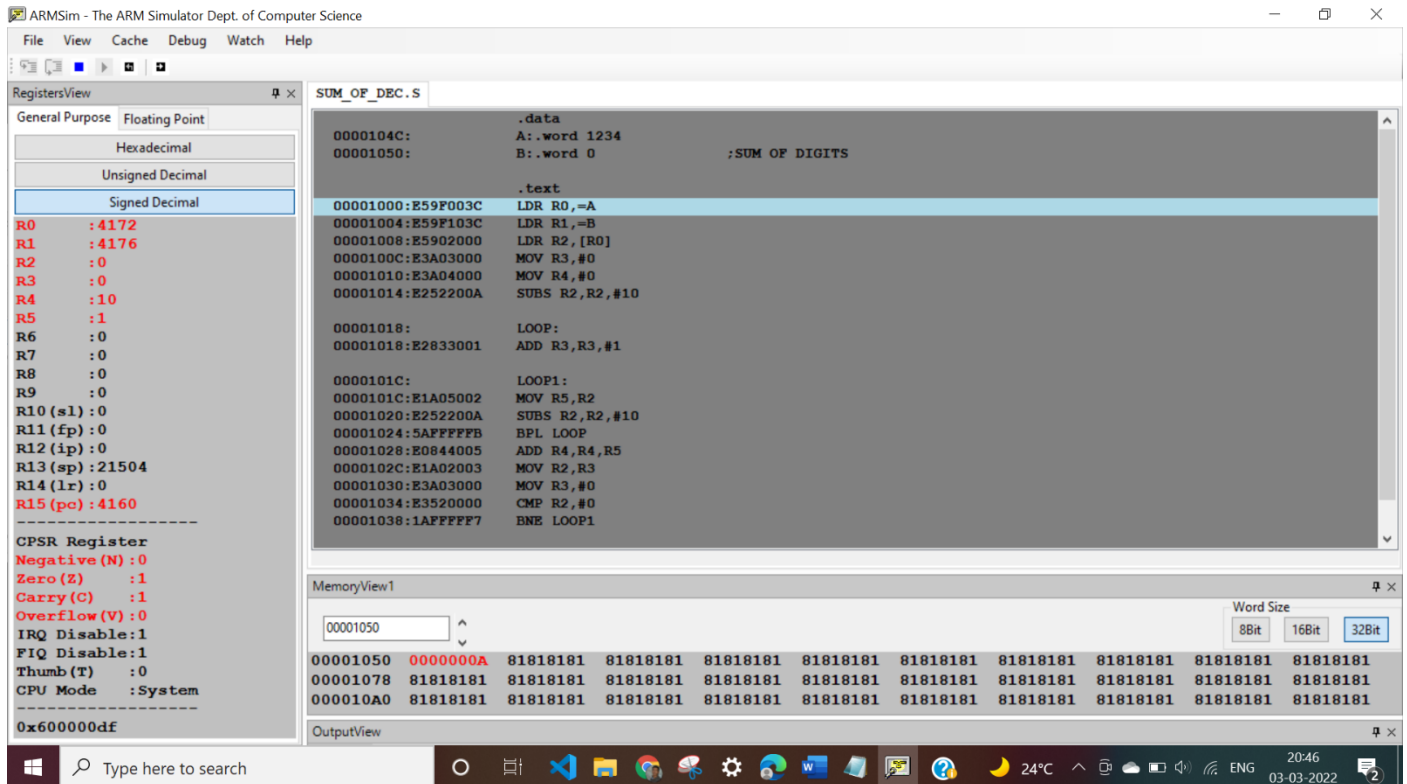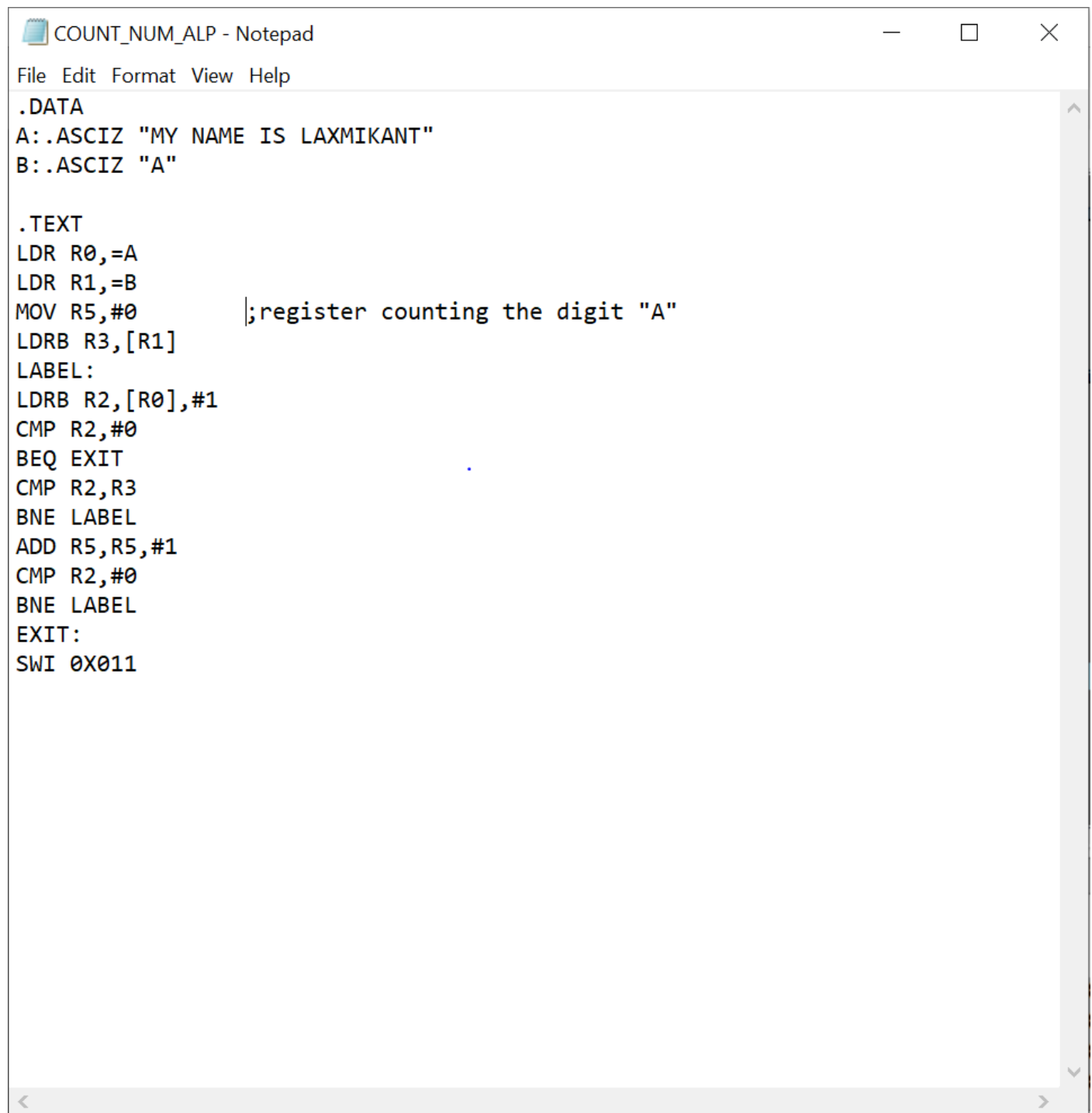
PROGRAM 2 : Write a program in ARM7TDMI-ISA to find the number of occurrences of a given character in a string.

CODE:

```
COUNT_NUM_ALP - Notepad                                    —   □   ✕

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.DATA
A:.ASCIZ "MY NAME IS LAXMIKANT"
B:.ASCIZ "A"

.TEXT
LDR R0,=A
LDR R1,=B
MOV R5,#0          ;register counting the digit "A"
LDRB R3,[R1]
LABEL:
LDRB R2,[R0],#1
CMP R2,#0
BEQ EXIT
CMP R2,R3
BNE LABEL
ADD R5,R5,#1
CMP R2,#0
BNE LABEL
EXIT:
SWI 0X011
```