SRN-PES2UG20CS298

NAME-SAIEESH S RAO

CLASS-4E

MPCA LAB

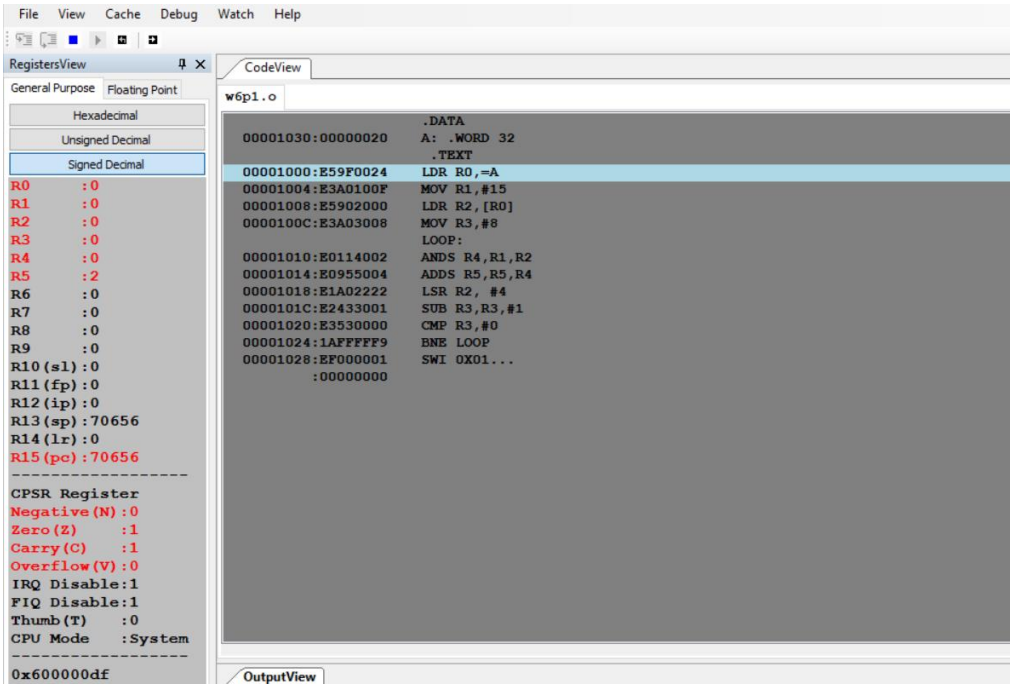
Week 6

1. Q1. Write a program in ARM7TDMI–ISA to find the sum of all the digits in a 32– bit number.

Code:

```
.DATA
A: .WORD 32
.TEXT
LDR R0,=A
MOV R1,#15
LDR R2,[R0]
MOV R3,#8
LOOP:
    ANDS R4,R1,R2
    ADDS R5,R5,R4
    LSR R2, #4
    SUB R3,R3,#1
    CMP R3,#0
    BNE LOOP
SWI 0X01
```

Output:



2. Write a program in ARM7TDMI–ISA to find the number of occurrences of a given character in a string.

Code:

```
.DATA
A: .ASCII "HELLO WORLD"
B: .ASCII "L"
.TEXT
LDR R0,=A
LDR R1,=B
MOV R4,#0
MOV R9,#0
LOOP:
 LDRB R2,[R0],#1
 LDRB R3,[R1]
 CMP R2,R3
 BEQ LOOP1
```

```
ADD R9,R9,#1
CMP R9,#100
BNE LOOP
LOOP1:
ADD R4,R4,#1
BAL LOOP
```

Output: