LAB 2

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Roll no-58

Q1)

Code -

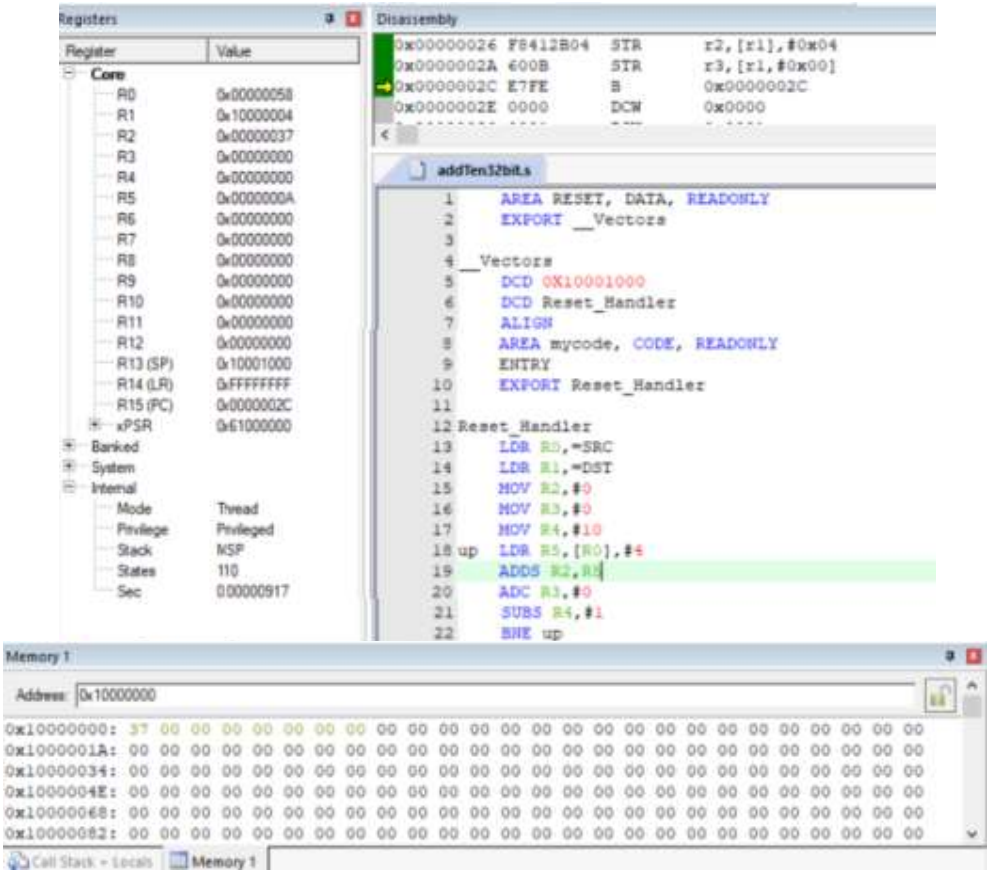
```
AREA RESET, DATA, READONLY
EXPORT __Vectors
__Vectors
DCD 0X10001000
DCD Reset_Handler
ALIGN
AREA mycode, CODE, READONLY
ENTRY
EXPORT Reset_Handler
Reset_Handler
LDR R0,=SRC
LDR R1,=DST
MOV R2,#0
MOV R3,#0
MOV R4,#10
up LDR R5,[R0],#4
ADDS R2,R5
ADC R3,#0
SUBS R4,#1
BNE up
STR R2,[R1],#4
STR R3,[R1]
STOP B STOP
```

SRC DCD 1,2,3,4,5,6,7,8,9,10

AREA mydata, DATA, READWRITE

DST DCD 0

END



Q2)

Code –

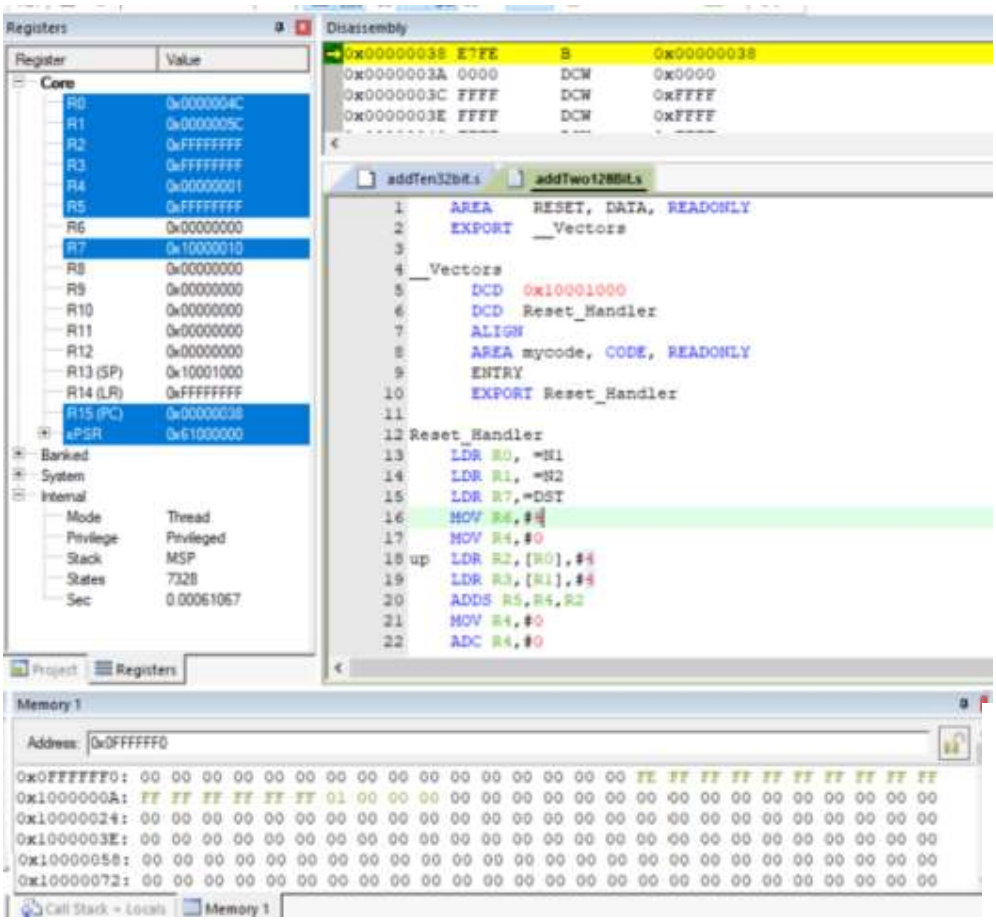
```
AREA RESET, DATA, READONLY
 EXPORT __Vectors
__Vectors
 DCD 0x10001000
 DCD Reset_Handler
 ALIGN
 AREA mycode, CODE, READONLY
 ENTRY
 EXPORT Reset_Handler
Reset_Handler
LDR R0, =N1
LDR R1, =N2
LDR R7,=DST
MOV R6,#4
MOV R4,#0
up LDR R2,[R0],#4
LDR R3,[R1],#4
ADDS R5,R4,R2
MOV R4,#0
ADC R4,#0
ADDS R5,R3
ADC R4,#0
SUBS R6,#1
STR R5,[R7],#4
BNE up
STR R4,[R7]
STOP B STOP
N1 DCD 0xFFFFFFFF, 0xFFFFFFFF, 0xFFFFFFFF, 0xFFFFFFFF
```

N2 DCD 0xFFFFFFFF, 0xFFFFFFFF, 0xFFFFFFFF, 0xFFFFFFFF

AREA mydata, DATA, READWRITE

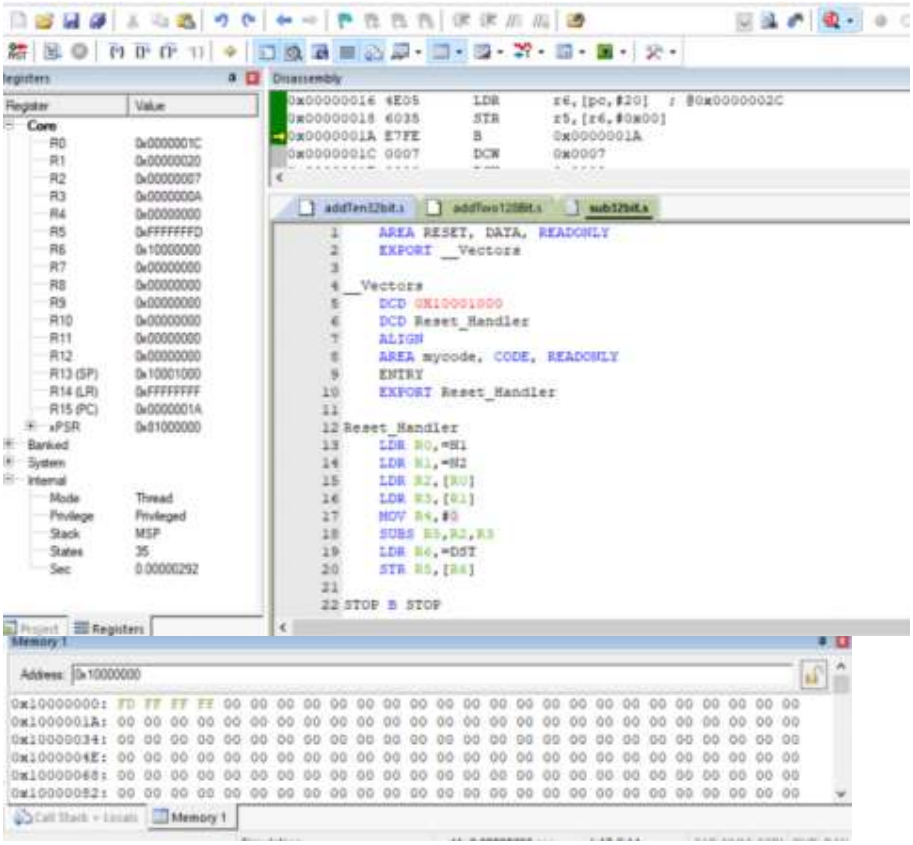
DST DCD 0

END



Q3)

```
AREA RESET, DATA, READONLY
EXPORT __Vectors
__Vectors
DCD 0X10001000
DCD Reset_Handler
ALIGN
AREA mycode, CODE, READONLY
ENTRY
EXPORT Reset_Handler
Reset_Handler
LDR R0,=N1
LDR R1,=N2
LDR R2,[R0]
LDR R3,[R1]
MOV R4,#0
SUBS R5,R2,R3
LDR R6,=DST
STR R5,[R6]
STOP B STOP
N1 DCD 7
N2 DCD 10
AREA mydata, DATA, READWRITE
DST DCD 0
END
```


Registers
Register
Value
Core
R0 0x0000001C
R1 0x00000020
R2 0x00000007
R3 0x0000000A
R4 0x00000000
R5 0xFFFFFFFD
R6 0x10000000
R7 0x00000000
R8 0x00000000
R9 0x00000000
R10 0x00000000
R11 0x00000000
R12 0x00000000
R13 (SP) 0x10001000
R14 (LR) 0xFFFFFFFF
R15 (PC) 0x0000001A
xPSR 0x01000000
Banked
System
Internal
Mode Thread
Privilege Privileged
Stack MSP
States 35
Sec 0.00000292
Project
Registers
Disassembly
0x00000016 4E05 LDR r6,[pc,#20] ; @0x0000002C
0x00000018 6035 STR r5,[r6,#0x00]
0x0000001A E7FE B 0x0000001A
0x0000001C 0007 DCW 0x0007
addTen32bit.s
addTwo128Bit.s
sub32bit.s
1 AREA RESET, DATA, READONLY
2 EXPORT __Vectors
3
4 __Vectors
5 DCD 0X10001000
6 DCD Reset_Handler
7 ALIGN
8 AREA mycode, CODE, READONLY
9 ENTRY
10 EXPORT Reset_Handler
11
12 Reset_Handler
13 LDR R0,=N1
14 LDR R1,=N2
15 LDR R2,[R0]
16 LDR R3,[R1]
17 MOV R4,#0
18 SUBS R5,R2,R3
19 LDR R6,=DST
20 STR R5,[R6]
21
22 STOP B STOP
Memory 1
Address: 0x10000000
0x10000000: FD FF FF FF 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
0x1000001A: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
0x10000034: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
0x1000004E: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
0x10000068: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
0x10000082: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
Call Stack + Locals
Memory 1

Q4)

Code –

```
AREA RESET, DATA, READONLY
EXPORT __Vectors
__Vectors
DCD 0X10001000
DCD Reset_Handler
ALIGN
AREA mycode, CODE, READONLY
ENTRY
EXPORT Reset_Handler
Reset_Handler
LDR R0,=N1
LDR R1,=N2
LDR R4,=DST
MOV R5,#4
MOV R9,#1
up LDR R2,[R0],#4
LDR R3,[R1],#4
CMP R9,#1
BNE subborrow
SUBS R7,R2,R3
B carry
subborrow SBCS R7,R2,R3
carry MOV R9,#0
ADC R9,#0
STR R7,[R4],#4
SUBS R5,#1
BNE up
STOP B STOP
N1 DCD 0xFFFF0000, 0xFFFFFFFF, 0xFFFFFFFF, 0xFFFFFFFF
```

N2 DCD 0xFFFFFFFF, 0xFFFFFFFF, 0xFFFFFFFF, 0xFFFFFFFF

AREA mydata, DATA, READWRITE

DST DCD 0

END