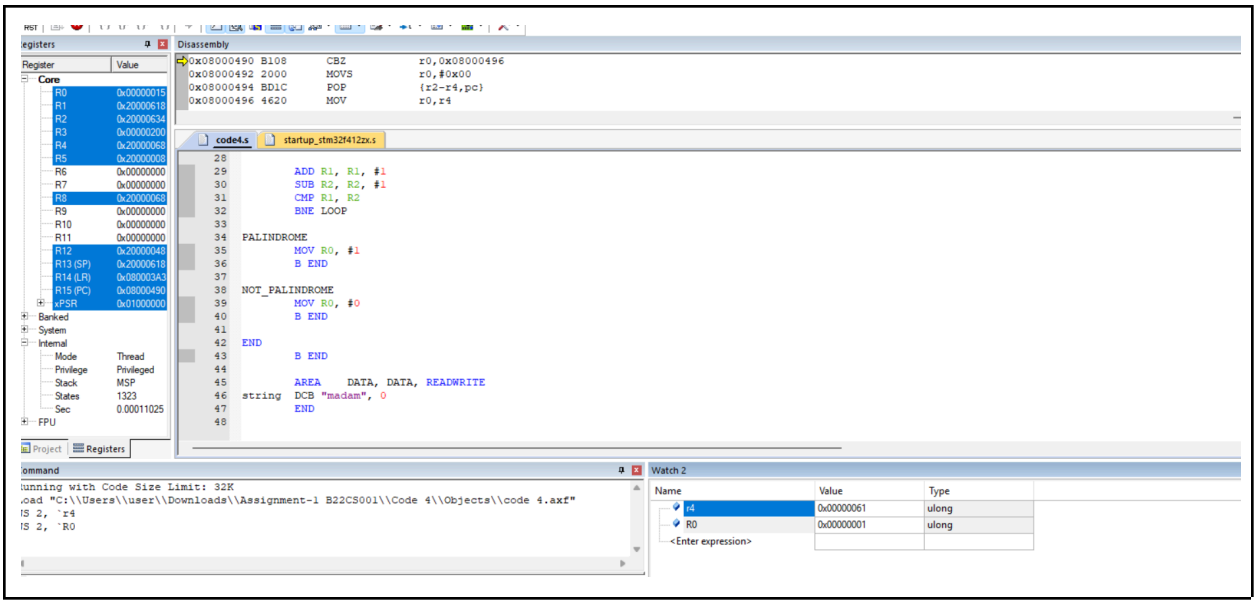
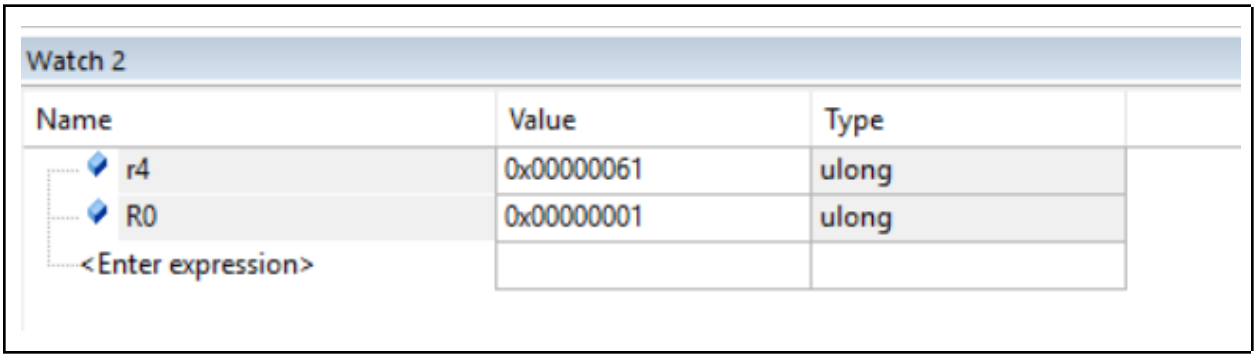

Disassembly
0x08000490 B108 CBZ r0,0x08000496
0x08000492 2000 MOVS r0,#0x00
0x08000494 BD1C POP {r2-r4,pc}
0x08000496 4620 MOV r0,r4
code4.s
startup_stm32f412zx.s
ADD R1, R1, #1
SUB R2, R2, #1
CMP R1, R2
BNE LOOP
PALINDROME
MOV R0, #1
B END
NOT_PALINDROME
MOV R0, #0
B END
END
B END
AREA DATA, DATA, READWRITE
string DCB "madam", 0
END
Watch 2
Name
Value
Type
r4
0x00000061
ulong
R0
0x00000001
ulong
<Enter expression>


Watch 2
Name
Value
Type
r4
0x00000061
ulong
R0
0x00000001
ulong
<Enter expression>

EEP3020 : Digital Systems Lab
Assignment - I

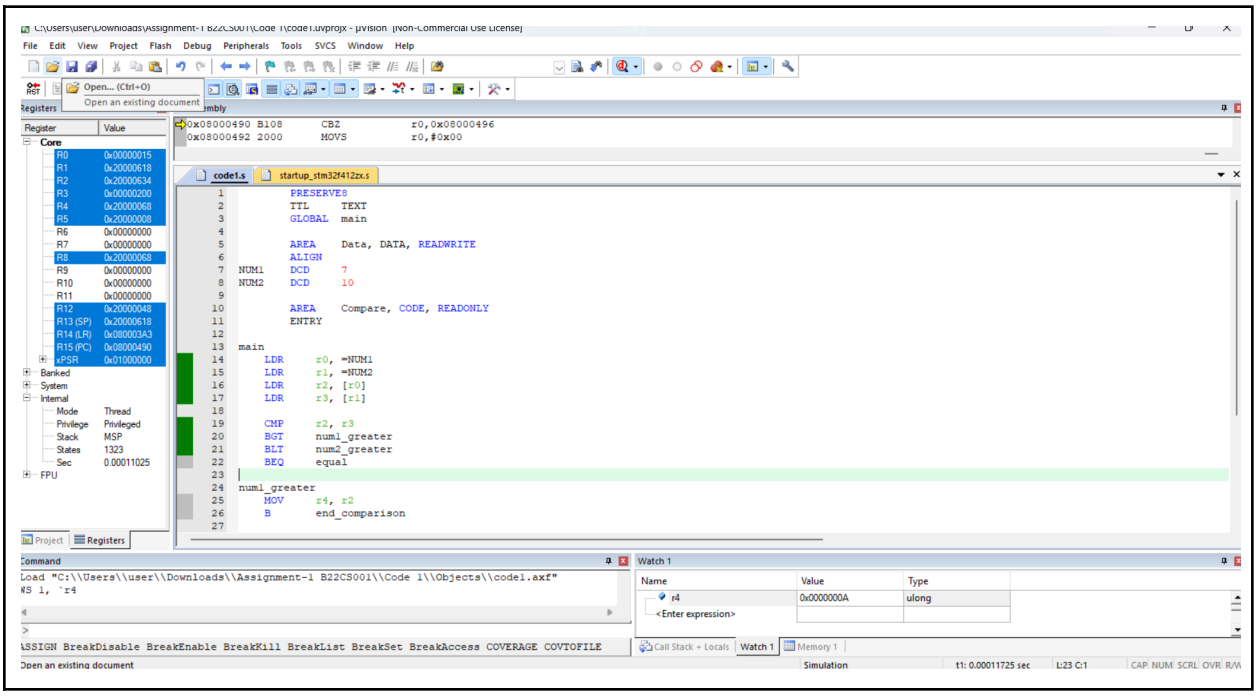
Name : *Abhay Kashyap*
Roll no : *B22CS001*

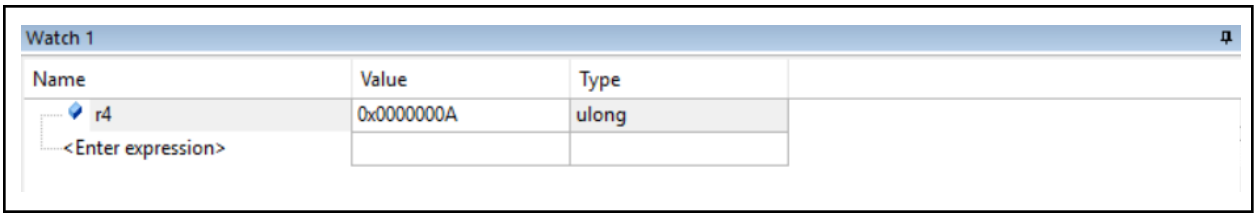
Question - 1. Check Greater between two input numbers

```
                PRESERVE8
        TTL     TEXT
        GLOBAL  main

        AREA    Data, DATA, READWRITE
        ALIGN
NUM1    DCD     7
NUM2    DCD     10

        AREA    Compare, CODE, READONLY
        ENTRY

main
    LDR     r0, =NUM1
    LDR     r1, =NUM2
    LDR     r2, [r0]
    LDR     r3, [r1]

    CMP     r2, r3
    BGT     num1_greater
    BLT     num2_greater
    BEQ     equal

num1_greater
    MOV     r4, r2
    B       end_comparison

num2_greater
    MOV     r4, r3
    B       end_comparison

equal
    MOV     r4, r2

end_comparison
    MOV     r7, #1
    SWI     0

END
```

Explanation :

The ARM assembly code compares two numbers (7 and 10, stored in NUM1 and NUM2) and stores the greater of the two in register r4. If both numbers are equal, r4 is set to the value of NUM1. After the comparison, the program makes a system call to exit. The result of the comparison is controlled by conditional branching (BGT, BLT, BEQ).





Question - 2. Calculate the minimum one between elements of an array

```
        PRESERVE8
        TTL     TEXT
        GLOBAL  main

        AREA    Data, DATA, READWRITE
        ALIGN
ARRAY   DCD     5, 10, 3, 7, 2
LEN     DCD     5
```