19CSE303 – EMBEDDED SYSTEMS
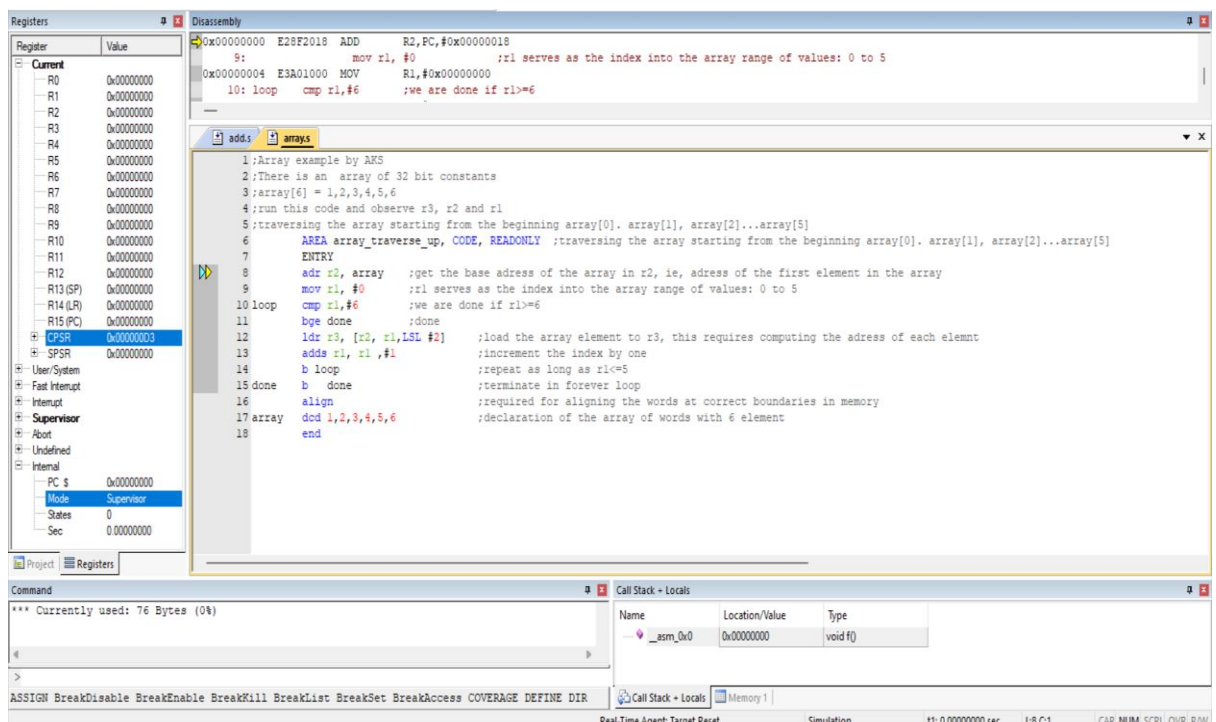
Lab 6 – 23.08.2021
Practice Lab (Arrays)

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1. **Declare array:**

```
            AREA array_traverse_up, CODE, READONLY
            ENTRY
            adr r2, array
            mov r1, #0
loop    cmp r1,#6
            bge done
            ldr r3, [r2, r1,LSL #2]
            adds r1, r1 ,#1
            b loop
done   b       done
            align
array   dcd 1,2,3,4,5,6
            end
```
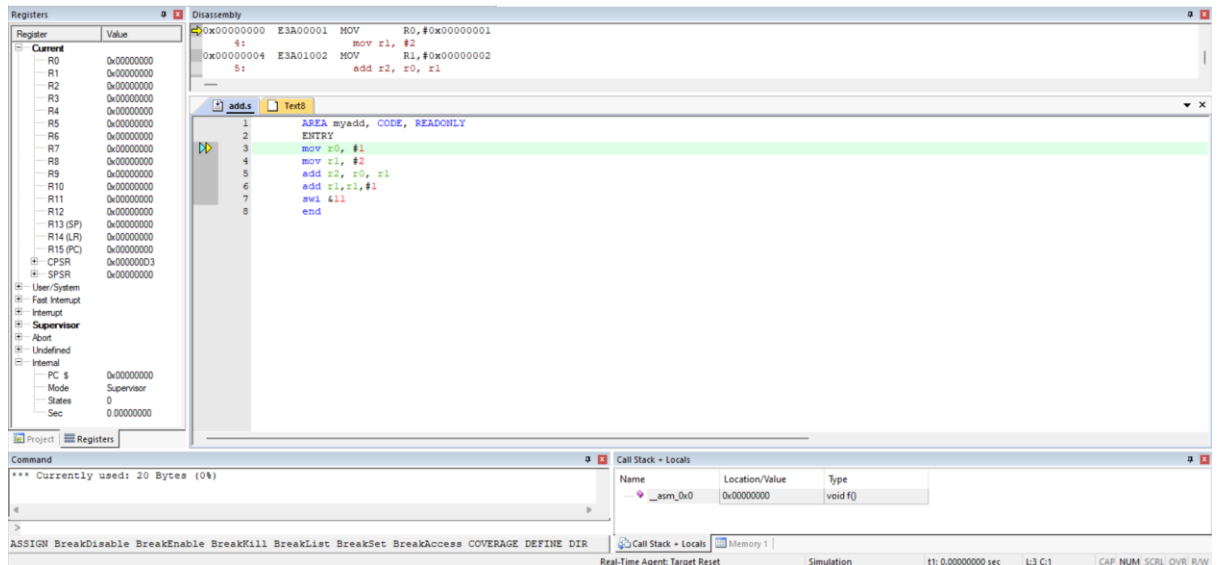
2. Add:

```
AREA myadd, CODE, READONLY
ENTRY
mov r0, #1
mov r1, #2
add r2, r0, r1
add r1,r1,#1
swi &11
end
```


3. Simple :

```
;16 bit data transfer

TTL move16 – 16-bit data transfer

AREA Program, CODE, READONLY

ENTRY

Main

LDRB R1, Value ; Load value

STR R1, Result ; Sore it again

SWI &11 ; exit()

Value DCW &C123 ; Source value to be moved

ALIGN ; Alling next word
```

Result DCW 0 ; Reserve space for result

END

4. Basic:

```
            AREA prog1,CODE,READONLY

            ENTRY
            mov    r0,#0x11
            mov r1,r0, LSL#1
            mov r2,r1, LSL#1
stop    B stop
            END
```
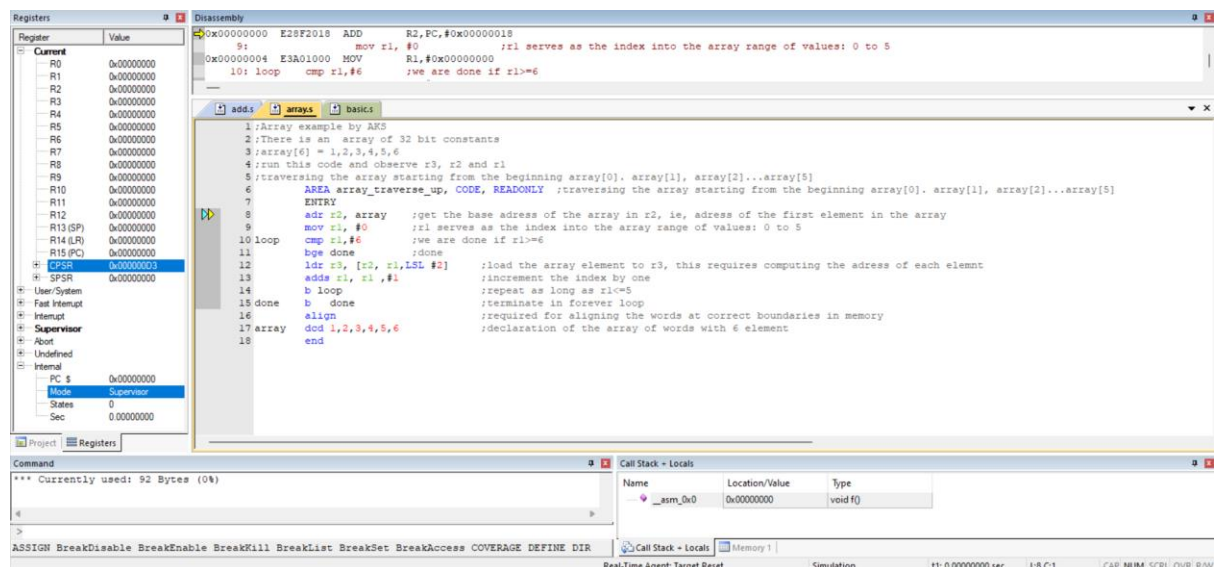

Also tried 2 pdf problems. Got some errors

5. Traverse :

```
AREA array_traverse_up, CODE, READONLY
            ENTRY
            adr r2, array
            mov r1, #0
loop   cmp r1,#10
            bge done
            ldr r3, [r2, r1,LSL #2]
            sub r3, r3, #1
            str r3, [r2, r1,LSL #2]
            adds r1, r1 ,#1
            b loop
done  b      done
```

```
          align
array dcd 1,2,3,4,5,6,7,8,9,10
          end
```

```
tra.s(2): error: A1105E: Area directive missing
tra.s(2): warning: A1088W: Faking declaration of area AREA |$$$$$$$|
".\asd.axf" - 2 Error(s), 1 Warning(s).
Target not created
```