

Faculty of Engineering Ain Shams University CSE 211s:Introduction to Embedded Systems REPORT (1)

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Sec.: 1

Program: CSE

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Code in C:

Code explanation:

This code stores the updated value of j by adding the value of i till i = 14.

Once i = 15 the iteration stops and the loop breaks.

After compilation of the program:

```
i = 15 → 0x0000 000F

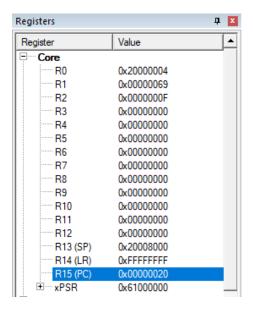
j = 105 → 0x0000 0069

address of j in memory → 0x2000 0004
```

Assembly Code:

```
AREA RESET, DATA, READONLY
          EXPORT Vectors
 Vectors
          DCD 0x20008000
          DCD Reset Handler
          ALIGN
          AREA myCode, CODE, ReadOnly
          ENTRY
          EXPORT Reset_Handler
Reset Handler
          LDR RO, =0x20000004
          MOV R1, \#0; j = 0
          MOV R2, \#0; i = 0
          CMP R2, #15; compare between i and 15
Loop
          BGE EndLoop
          ADD R1, R1, R2; i = i + i
          ADD R2, #1; i++
          B Loop
EndLoop STR R1, [R0] ; store the value of j in the memory
          END
```

Registers:



Memory:

