Experiment 11

Aim:

To write an ARM Assembly Language to find the length of a string.

Tool Used:

Keil uVision4

Theory:

The value of string is loaded using DCB and DCD values and compared until the value is 0.

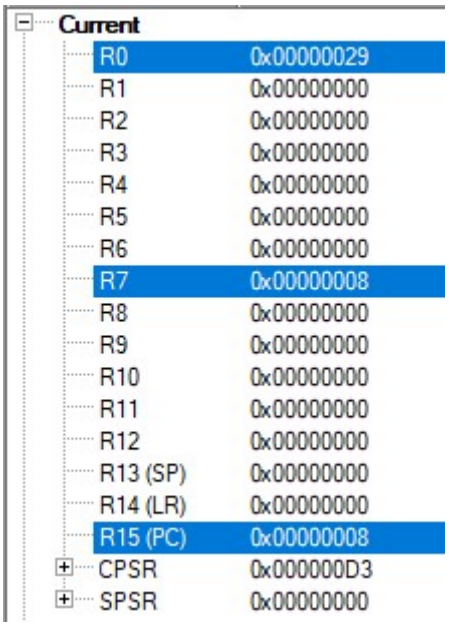
Code:

```
                AREA PROGRAM, CODE, READONLY

        ENTRY
MAIN
        LDR R0, VALUE1
LOOP2   LDRB R3,[R0],#1
        ADDS R3,R3,#0
        BEQ LOOP1
        ADD R7,R7,#1
        B LOOP2
LOOP1   ADD R0,R0,#0

        AREA PROGRAM, DATA, READONLY
VALUE1 DCD STRING ; DCD = Define Constant Double word
STRING DCB "EMBEDDED" ; DCB = Define Constant Byte
        END
```

Output:

```
Load "C:\\Users\\User\\Documents\\Code-sync\\Keil\\ARM\\Experiment 11\\expl1.axf"

*** Restricted Version with 32768 Byte Code Size Limit
*** Currently used: 40 Bytes (0%)
```

The word Embedded is 8 characters which is displayed in R7.



Result:

The experiments to find the length of a string has been performed and verified to be correct.