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ELC411 Homework #2

Express the following function in ARM Assembly Code (r0 holds str\_in, r1 holds delimiter, return result in r0)

Examines the string for the delimiter, returns pointer to the substring just following the delimiter.

char \* str\_split( char \*str\_in, char delimiter )

{

    char    cur;

    cur = \*str\_in;                      // Get first char

    while (cur != NULL)                 // Break on NULL (zero) termination char

    {

        ++str\_in;                       // Point to the next char

        if (cur == delimiter)

        {

            return str\_in;              // Split starts at next char

        }

        cur = \*str\_in;                  // Get next char

    }

    return NULL;                        // While ended, terminated before any match

}

`

**Solution:**

let r0=string\_in

let r1=delimiter

let r2=holds variable cur

LDRB r2,[r0] //cur=\*str\_in;

CMP r2,#0

BEQ post\_loop//while(cur!=null), if test fails go to post loop

// Past this point cur!= null

ADD ro,ro,#1//++str\_in

CMP r2,r1

BNE not-delimeter //if(cur=delimeter)

BX LR //return str\_in (r0)

LDBR r2,[r0] // cur=\*str\_in;

B while\_loop

POST\_LOOP:

MOV r0, #0

BX LR