```
1   ;Name : Kushagra Varshney
2   ;Roll No : EE10B062
3
4   ;R0 = Stores the final result
5   ;    If R0 = 0 => String is NOT a palindrome
6   ;    If R0 = 1 => String IS a palindrome
7
8           AREA Program, CODE, READONLY
9           ENTRY
10  Main
11          LDR     R6, List                ;R6 = Pointer to Forward moving List
12          LDR     R7, List                ;R7 = Pointer to Backward moving list
13          MOV     R3, #0                  ;R3 = Counter
14          MOV     R4, #0                  ;R4 = String Length
15          MOV     R1, '\0'                ;NULL character for sring termination
16
17  strlen  ADD     R4,R4,#1                ;Increment String Length counter
18          LDRB    R2, [R6], #+1           ;R2 = load element from array , and increment R6 by 1
19          CMP     R2, R1                  ;If not NULL, loop
20          BNE     strlen
21
22          SUB     R6, R4                  ; R6 points first element of array
23          SUB     R4, R4, #2              ; R4 = (String length - 1 )
24          ADD     R7, R4                  ; R7 points to the last element of array
25
26  loop
27          LDRB    R1, [R6], #+1           ;R1= first element from array and increment R6
28          LDRB    R2, [R7], #-1           ;R2= last element from array and decrement R7
29          ADD     R3, R3, #1              ;Increment counter
30          CMP     R3, R4                  ;Check if counter = StrLen - 1,  if so then end loop
31          BEQ     final
32          CMP     R1, R2                  ;check if its palindrome, if so then loop
33          BEQ     loop
34
35          MOV     R0, #0                  ; Not a Palindrome
36          B       over
37  final
38          MOV     R0, #1                  ; It is a Palindrome
39  over
40
41
42          AREA    Data1, DATA, READONLY
43  Start   DCB     &08, &07, &07, &08 , &00
44          AREA    Data2, DATA, READONLY
45  List    DCD     Start
46
47          END
48
```

Assignment - 2 (17 Feb 2014) - Kushagra Varshney (EE10B062)

Write an ARM assembly language program for finding if a NULL terminated string is a Palindrome.

R0 = Final Result
; If R0 = 0 => String is NOT a palindrome
; If R0 = 1 => String IS a palindrome