String Comparison in ARM

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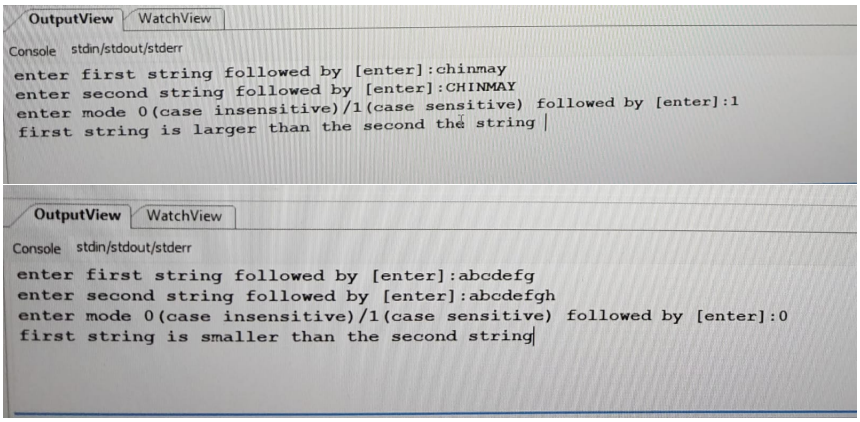
Program structure

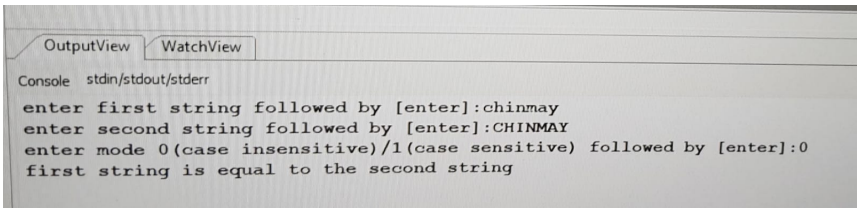
I have made custom functions for taking string input and output.

The function responsible for reading the input expects the address to store the string in the register r2 , it reads character by character from stdin till it gets a newline character after which it stops and makes the string input null terminated (stored byte by byte, starting from the address stored in r2). I have used it to input strings and the mode of comparison and stored them in predefined spaces in the data space.

The function to print a string expects the address of a null terminated string in r2, it prints byte by byte to stdout till it encounters a null termination after which it returns , I have used this to print user prompts and program output all of which are hard coded in the data section

Examples for user interaction and different outputs:





The main comparison program expects the mode of comparison in r0 (0 for case insensitive and 1 for case sensitive). In case sensitive, comparisons are made by ASCII value. In case of case insensitive comparison, ASCII values greater than 96 (a on-wards) are reduced by 32. The function loops over the string positions and returns the answer to register r0 as (-1/0/+1) depending on whether first string is smaller/equal/larger than the second string. This function expects the starting address of the first string in r1 and the second address in r2.
The result of this function is used to display a suitable message as the output of the program as shown above.