

# MIT Tutorial Assignment - 1

Store the data (your roll no. string) using the `db` directive (GNUSim8085 -> Help -> Assembler Tutorial) before writing the program code. Do not make any assumptions regarding the data storage location.

1. WALP to sort the characters of your roll no string (e.g. U18CO001) in ascending order (00118COU) in-place. Use ASCII values for comparison.
2. What modifications will you do in (1.) to sort it in descending order? (UOC81100)
3. How will you perform (1.) without changing the original data (not in-place) (Hint: use `ds` directive to reserve storage for the sorted output)?
4. What would be the result in (1.) if the roll no string input was first converted to lowercase?
5. The management decided to change the prefix from U to UG and department code from CO to COED. WALP to convert your old roll no. (U18CO001) to the new format (UG18COED001) (Hint: use `ds` directive to reserve extra bytes, to avoid overwriting code segment)
6. In order to simplify a few tasks, sometimes, it is sufficient to work with just your serial no. instead of the entire roll no. string. WALP that does this conversion and stores the output in the accumulator. (U18CO010 -> A, U18CO016 -> 10, etc.)
7. Your program (6.) will fail for which roll nos? Modify it, so that it doesn't fail for the cases you've mentioned. Use a register pair for the output instead of the accumulator.