

Third assignment

Programming in C

50% of the final grade will be determined by assignments and 50% by the final test

A maximum of one additional point may be awarded to your final grade based on your engagement and attendance in lectures and labs.



Solve one problem from each category:

Category 1:

With pointers (pointer arithmetics instead of `array[i]`), but using your own user defined functions:

1. Write a program that reads 2 arrays and merges the two arrays into third array. Before merging, sort the 2 arrays in ascending order.
2. Write a program that reads a 2D array and prints transpose of the array.
3. Write a program that reverses a string (array of char) entered by the user.


Category 2

Using dynamic memory allocation where is the case, solve one of the following:

1. Multiply 2 matrices of integers.
2. For a list of students, each having name, registration_number and 5 marks for current semester, sort them in descending order of the average of the 5 marks, and display the students with identical average in alphabetical order.

5 points for each of the two solutions

Deadline: TBA on Team assignments

 User input is considered valid.

Bonus assignment:

A maximum of 2 bonus points are applicable to this assignment

1. Login on <https://leetcode.com>
2. Solve the these 2 problems on Leetcode, using C
 - [206. Reverse Linked List](#) (Easy)
 - [92. Reverse Linked List II](#) (Medium)
3. Work on your own for the initial solution (only use stack overflow/Google for specific implementation blocks, not the entire problem). Consider this a challenge for yourself.
4. If your initial implementation is successful, seek out improved algorithms and iterate your submission to improve your score. Still, do not copy and paste the code; implement it yourself. This will help you in becoming an outstanding developer.

Submission of Solutions

SEND SOLUTIONS (no videos are required for this assignment)

2. Create a zip file with the source code and upload it to the assignment as well. GitHub or other Git repositories with the code are also accepted instead of the zip file with the solutions.