Assignment # 1 (Given: May 15, Due: May 20)

1. Implement the `merge`, `reverse`, `unique`, and `sort` functions for the forward_list ADT. Functions should work as specified in the STL documentation[1]. Modify the forward_list.h file provided to you. While implementing these functions,
   a) you are not allowed to call any other function (internal/member or external).
   b) no additional memory should be used by creating new nodes.
   c) no memory should be deleted, except in the unique function.
   d) values (data part) of the nodes cannot be changed (you can swap addresses of nodes, but not their values).
2. Do all the things mentioned in part 1 for the list ADT. Modify the list.h file provided to you.

*Instructions (**read carefully**):*

- Submit to MS Teams before due time. Do not delay submission for the last moment. Late submissions will not be accepted.
- The source code should be properly indented.
- Properly comment your source code.
- Any genuine efforts in each part, would result in at least 50% marks (for that part). Make sure you put your best efforts to solve every part. Each part carries its own marks.
- You are getting 50% marks for any genuine efforts in all the parts to encourage you to learn, even if your program does not compile and is full of bugs. Therefore, please do not plagiarize! Plagiarism includes taking help in any form including but not limited to code, concept or idea for the solution, algorithm, and pseudocode. Taking help from any source including but not limited to classmates, seniors, internet, or LLMs is strictly prohibited. In case your code is plagiarized, you'll get -50% absolute marks of the whole assignment. For example, if the assignment is of 50 marks, you will get -25 marks. **Even a single plagiarized statement will count as plagiarism for the whole assignment**. Plagiarism in two assignments would result in getting failed in the course.

1 https://en.cppreference.com/w/cpp/container/forward_list or https://cplusplus.com/reference/forward_list/forward_list/