Operating Systems (327108)

Assignment No. 4

Due Date/Time	4thth Jan, 2023 11:59 PM
Files to be submitted	Documentation along with code file.
File Naming	Roll_No_Assign_04.pdf Roll_No_Assign_04.py/cpp Note: Any assignment that is not according to format will be marked as zero.
Coding Guides	1. Use of proper variable declaration/initialization according to the naming conventions (**camelCase, snake_case, PascalCase**) 2. Use of proper function for each module. Note: Marks will be deducted if not following the above guide line.
Submission Guide line	1. Code along with documentations should be submitted on teams by due date/time. 2. Also update your solution on your **Github** profile. 3. Also include your **Github** link in the documentation.
Plagiarism	Any kind of plagiarism will result in F grade in course
Weightage	This assignment will be marked on CLOs, also it will be graded for course and lab both. Which means , if you have got 8/10 in this assignment same marks will be reflected for your lab assignment.

Question 1:

You have to create four threads other than main thread.

1. Input thread

2. Reverse thread

3. Capital thread

4. Shift thread

Input thread will take string input from user, reverse thread will reverse the string and output it, capital thread will capitalize the characters of string and output it and shift thread will shift each characters of the string two time (e.g. a will become c) and output it. All the threads wait for input thread when input thread finishes his task all the waiting thread start their work simultaneously. You also have to handle the exceptions of input thread. Also take care the state of each thread. Do not waste your memory resources.