University of Dhaka
Dept. of Computer Science and Engineering

CSE-2112: Object Oriented Programming Lab (Spring, 2023)
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Problem A: Write a program that reads a text file of your local file system, prints it in the console, and writes it back in another file but the lines should be written in reverse order of the original file. You should use BufferedReader, FileReader, BufferedWriter, FileWriter etc.

Input File	Output File
A line. Another line. Yet another line.	Yet another line. Another line. A line.

Problem B: You need to build a class hierarchy involving the following shapes:

Shape	Parameters
Circle	Radius
Rectangle	Length and width
Triangle	Lengths of three sides and height
Line	Length

Common to each of the above shapes are: Name (String) and color (String). Another property that may or may not be applicable to each of the shapes is area.

Build a class hierarchy for the above classes. The conditions are as follows:
1. Use at least one abstract class which must have at least one abstract method and one normal method. Alternatively, you can use an interface.
2. There must be at least two levels in your class hierarchy.
3. There must be mechanisms to get the name, color, and area (if applicable) for each shape.

Write a main method to demonstrate the basic functions of your classes.

You should try to use maximum code reuse as well as maximum ease of coding.