Exercise Problems on System calls

Problem 1:
Write a C program that opens a file named "data.txt" in read-only mode using the open system call. If the file doesn't exist, display an error message. Otherwise, read the contents of the file and display them on the console.

Problem 2:
Write a C program that creates a new file named "output.txt" and opens it in write-only mode using the open system call. If the file already exists, display an error message. Then prompt the user to enter a string and write that string to the file. Finally, close the file.

Problem 3:
Write a C program that opens an existing file named "numbers.bin" in read-only mode using the open system call. If the file doesn't exist, display an error message. Otherwise, read the contents of the file, which contains integers, and compute their sum. Display the sum on the console.

Problem 4:
Write a C program that opens a file named "input.txt" in read-only mode using the open system call. If the file doesn't exist, display an error message. Otherwise, create a new file named "output.txt" and open it in write-only mode using the open system call. Then, read the contents of "input.txt" and write them to "output.txt" character by character until the end of the file. Finally, close both files.

Problem 5:
Write a C program that opens a file named "log.txt" in append mode using the open system call. If the file doesn't exist, create it. Then, prompt the user to enter a log message, and write the message along with the current timestamp to the file. Close the file after writing the log.