Lab Exercise (Recursive, Exception Handling, File input & Output)

Exercise 1. (recursive)

Description of the Problem

Write a recursive function that computes the sum of all numbers from 1 to n, where n is given as parameter.

Hints:
The recursive function header: `int sum(int n)`

Exercise 2. (Exception Handling)

Description of the Problem
Create a program to read in 5 integer from user and store in an array with size of 5 elements, your program should be secured with the exception handling try..catch block (refer the lecture slide pg.115). Try to run the program with a few test cases below and observe the program output:
1. Enter an alphabet instead of integer.
2. Get the result by diving one of the number with zero
3. Set the value for the element 6 in the array, for example: num[5] = 10;

Exercise 3. (File Input)

Description of the Problem
Create a program to store the mark of the student, the program will ask the user to input the name of the student and the mark using a sentinel control loop (you can use the input.hasNext() method), then store it in a text-based file.

Exercise 4. (File Output)

Description of the Problem
Create a program to read the student name and mark you've stored in the text-based file created in Exercise 3, and print it out on the screen.