CS-303 Assignment 1

(25 points)

Input file: https://app.box.com/s/o1n0hrmq095v8kvqzdnuideary1e8j2j

Q1) (20 points) Write a Java program that can read data from an input file (link is provided above) into a standard array (don't use ArrayList) and perform the following functions:

1) A function to check if a certain integer exists in the array if the number is present return the index where the number is present.
2) A function that can modify the value of an integer when called with the index of the integer in the array and return the new value and old value back to the user.
3) A function that adds a new integer to the end of the array
4) A function which intakes an index of an array and removes the integer altogether.

Q2) (5 points) A way to indicate an error, especially if there are several possible errors in code, is through the use of exceptions. Exceptions are used to signal that an error has occurred. You can insert code in your program that throws an exception when a particular kind of error occurs. An exception handler allows the user to catch or handle the exception. To avoid uncaught exceptions, you write a try block that can throw an exception and follow it with a catch block that catches the exception and handles it. Using the array code from question 1 perform the following:

1) Add a try and catch blocks to the user inputs for the following functions from question 1:
    - A function that can modify the value of an integer when called with the index of the integer in the array and return the new value and old value back to the user.
    - A function that adds a new integer to the end of the array

Submission guidelines:

1) All the functionality of the program should be implemented as functions and methods.
2) The code should be well commented
3) Create a report (readme file) that contains instruction on how to run the code and screen shots of the outputs for each functions of the each question.
4) Upload your report and code files to GitHub.
5) Submit the GitHub link on Canvas by due date.