Lab 8: Bad Science

Dr. Tonto has a theory that people born in July are better at computer science than people born in any other month … Dr. Tonto’s birthday happens to be July 31st. To prove his theory, he is collecting data on the dates that people are born and the final exam scores that they get in COMP 51. You are going to write a program to help him manage his “scientific” data.

## Lab 8a:

Create a function called getData() to repeatedly prompt the user for data on students’ months of birth and exam scores. Then store the data in a file. You can either ask up front how many students the user will be entering data for or you can prompt the user after each student’s data to find out if there are any remaining students.

## Lab 8b:

Create a function called analyzeData() to read Dr. Tonto’s scientific data and compute the average score of students born in July and the average score of students not born in July. Then display the results and tell Dr. Tonto whether the data supports his theory. To calculate the two averages, you will need to keep track of the following data as you read the file:

* The **sum** of the scores of students born in July.
* The **number** of students born in July.
* The **sum** of the scores of students born in months other than July.
* The **number** of students born in months other than July.

## Lab 8c:

Integrate the previous two functions into a program that presents the user with a menu of options:

1. Create new data file
2. Append to an existing data file
3. Analyze a data file
4. Quit

Write any additional functions that are necessary. ***When a file fails to open you should print an error message and return to the main menu.***

