Name: _____

Date: _____

ACTIVITY 4

Open-Ended Activity

This open-ended activity requires you to develop a program on a topic that interests you. As a class, spend a few minutes reviewing the requirements of the open-ended activity.

Requirements:

- Formulate a question you would like to answer
- Identify a data set that will help determine the answer to your question
- Create a class to model one entry of the identified data set
- Write a program with a `main` method to read the data from the identified data set into your program
- Utilize an array or `ArrayList` and the created class to store data that has been read
- Write code to process the data and determine an answer to the identified question

In addition, review the provided rubric/scoring guidelines so that you understand what you will be expected to explain once you are done completing your program.

It is strongly recommended that the implementation of the program involve collaboration with another student. Your selected program can be anything that you choose that meets the requirement and allows you to demonstrate your understanding.

Before beginning, make sure that you understand the expectations for the activity.

- Who will you be working with? Are you allowed to work with a partner? In a group of three or four?
- Among the members of your group (or with your partner), how will the implementation be completed?
- If you will be using pair programming, will your teacher be instructing you when to switch driver and navigator, or is this something that you need to keep track of?
- What should you do if your group/pair is stuck? Does your teacher want you to come straight to them? Are you allowed to ask another group?

Tip

For groups that choose to traverse multiple structures simultaneously:

When traversing multiple data structures simultaneously, structures might not be the same size and loop bounds must be adjusted to make sure that only locations that are valid in all structures are accessed.

Check Your Understanding

Once your program has been implemented and tested, you should answer the following questions on your own:

1. State the question you chose to answer and why you chose this question.

2. Describe the data set that you chose to help answer this question, and the process used to find the data set.

3. Describe the development process used in the completion of this project.

4. Describe the class used to represent entries in the identified data set, and why the specific instance variables were chosen.

5. Provide the code segment where data is being processed and describe how the data was processed in order to answer the identified question. Note that data must be stored in an array or `ArrayList` in order to earn full credit.