Name(s) _____ Period _____ Date _____

Personal Narrative Project Planning Guide

Images are often used to portray our personal experiences and interests. We also use image filters and effects to change or enhance the mood of an image. When combined into collages and presentations, these images tell a story about who we are and what is important to us. Your goal is to create a personal narrative using The Theater that consists of images of your personal experiences and/or interests, incorporates data related to these experiences and/or interests that can be organized in a 2D array, and uses image filters and effects to change or enhance the mood of your images.

Project Requirements

Use your knowledge of object-oriented programming, two-dimensional (2D) arrays, and algorithms to create your personal narrative collage or animation:

- **Create at least two 2D arrays** – Create at least two 2D arrays to store the data that will make up your visualization.
- **Implement one or more algorithms** – Implement one or more algorithms that use loops and two-way or multi-selection statements with compound Boolean expressions to analyze the data.
- **Use methods in the `String` class** – Use one or more methods in the **`String`** class in your program, such as to determine whether the name of an image file contains specific characters.
- **Create a visualization** – Create an image or animation that conveys the story of the data by illustrating the patterns or relationships in the data.
- **Document your code** – Use comments to explain the purpose of the methods and code segments and note any preconditions and postconditions.

Optional Features

- **Use inheritance and polymorphism** – Create classes to represent the types of data with overridden methods and use a 1D or 2D array of a superclass type to store the objects.
- **Use static variables, constants, and/or static methods** – Use static variables to represent values that are shared by all objects of a class, a constant to represent a value that doesn't change, and/or a static method to represent a behavior that doesn't require an object or as a helper method.
- **Use methods in the `Math` class** – Use one or more methods in the **`Math`** class in your program, such as to perform calculations on the values in a 2D array and display the results, choose random values from the 2D array, or display images or shapes at random locations.

Project Rubric

Category	Extensive Evidence	Convincing Evidence	Limited Evidence	No Evidence
Two-Dimensional (2D) Arrays	Creates more than one two-dimensional (2D) array that store relevant data for some part of the visualization. AND Creates a new one-dimensional (1D) or two-dimensional (2D) array containing values from one the existing 2D arrays.	Creates a two-dimensional (2D) array that stores relevant data for some part of the visualization.	Creates a two-dimensional (2D) array, but it does not store data that is relevant to some part of the visualization (i.e., only creates a 2D array of `Pixel` objects).	Does not create a two-dimensional (2D) array.
Algorithms	Implements more than one algorithm using the two-dimensional (2D) arrays. AND More than one algorithm uses loops and two-way or multi-selection statements with compound Boolean expressions to analyze the data and create the visualization.	Implements one algorithm using a two-dimensional (2D) array. AND The algorithm uses loops and two-way or multi-selection statements with compound Boolean expressions to analyze the data and create the visualization.	Implements one algorithm using a two-dimensional array but does not use loops or two-way or multi-selection statements with compound Boolean expressions to analyze the data and create the visualization.	Does not implement an algorithm using a two-dimensional (2D) array.
`String` Class	Uses more than one method in the `String` class to work with image file names and other relevant data.	Uses one method in the `String` class to work with image file names and/or other relevant data.	Uses one method in the `String` class on image file names and/or other relevant data, but it is not used in a way that impacts the visualization.	Does not use any of the methods in the `String` class.

Category	Extensive Evidence	Convincing Evidence	Limited Evidence	No Evidence
Visualization	Creates an animation or visualization that illustrates the patterns or relationships in the dataset. AND Uses at least one image filter or effect to enhance the mood or theme of the narrative.	Creates an animation or visualization that illustrates the patterns or relationships in the dataset.	Creates an animation or visualization that conveys the chosen topic but not the patterns or relationships in the dataset itself.	Does not create an animation or visualization that conveys the chosen topic.
Documentation	Uses single and multi-line comments to explain the functionality and purpose of methods and code segments in the program and note any preconditions and postconditions	Uses single-line comments to explain the functionality and purpose of methods and code segments in the program	Uses single-line comments to explain the functionality and purpose of methods in the program	Does not use comments to document the functionality and purpose of methods or code segments in the program

Step 1: Identify the story you want to convey

List the types of values you will use in your project, and explain the story you want to convey about the data.

Value #1

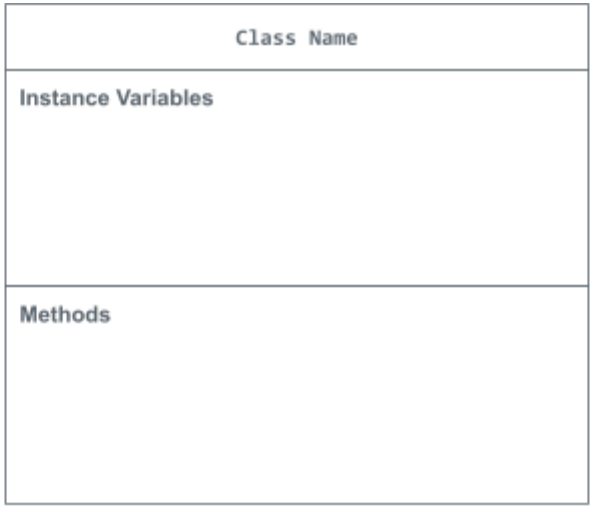
Value #2

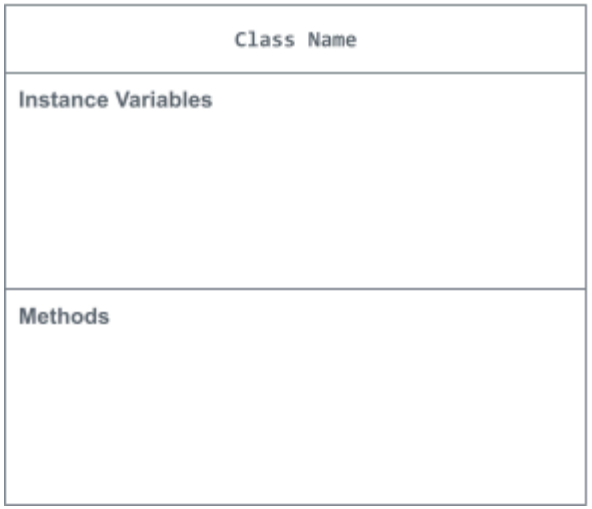
The Story

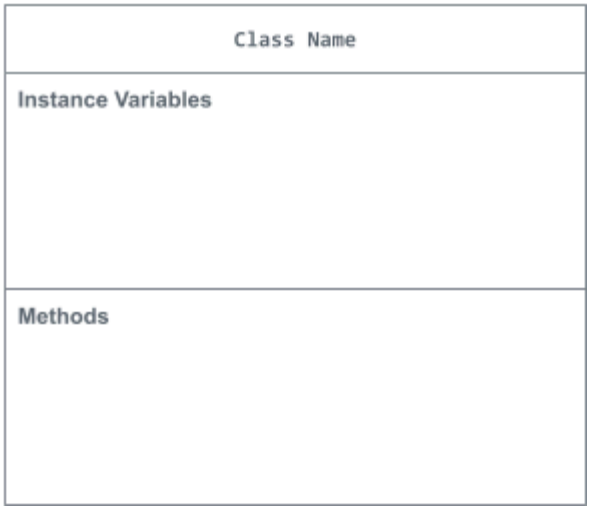
Sketch the visual you want to create to convey the story that illustrates the patterns or relationships.

Step 2: Create UML diagrams for your classes

Create a UML diagram for your class that will represent the scene and any additional classes you might need.







Step 3: Decide how you will use `String` class methods

Plan how you will use one or more methods in the **`String`** class in your program. Identify any methods you will need to implement, and write pseudocode for it below.

The _____ method in the `String` class will be used to:

Pseudocode for _____ method

Step 4: Decompose the Problem

Class: _____

Method	
Precondition(s)	
Postcondition(s)	
Pseudocode	

Class: _____

Method	
Precondition(s)	
Postcondition(s)	
Pseudocode	

End of Project Reflection

Describe your project.

What are two things about your project that you are proud of?

Describe something you would improve or do differently if you had an opportunity to change something about your project.