https://drive.google.com/folderview?id=1cb2hjY4COqA5\_8VCA2uvzlVb4jtk6Wc0

5 pts

# Backdrop

1. Initialize Color and timer variables. Use Color.Red initially and the timer should be 0
2. In the game Update, add to the timer once every time
3. When the timer reaches 3 seconds (180 ticks), create random values for red, green, and blue components and set the Color variable to a new instance of color
4. Change the current color values with the new random values every 3 seconds

# Yak-yak

1. Initialize a String variable and an int variable for the timer
2. In the game Update, add to the timer once every time
3. When the timer reaches 5 seconds (300 ticks), add another line to the String
4. When the timer reaches 10 seconds (600 ticks), add another line to the String
5. During the whole process, the Draw method will DrawString using a SpriteFont and coordinates

# Jake

1. Initialize a Rectangle variable
2. Load the image through the Rectangle into a Texture2D variable to Draw with
3. Draw the image in the Draw method

# See Jake Run

1. Initialize 2 Rectangle variables
2. Load 2 images through the Rectangles into Texture2D variables to Draw with, but the Rectangles must be offset by some measure
3. Draw the images in the Draw method
4. Add to each image’s X coordinate by accessing the images’ Rectangles in Update so that both move at the same time

# 

# Speed Demon

1. Initialize a Rectangle variable
2. Load the image of a snail through the Rectangle into a Texture2D variable to Draw with
3. In the game Update, increment the Rectangle’s X and Y coordinates by small amounts
4. Draw the image in the Draw method

10 pts

# Museum

1. Initialize 4 Rectangle variables - 2 for the characters, 1 for the museum itself, and 1 for the painting
2. Load the images of the characters, museum, and painting through the Rectangles into a Texture2D variable to Draw with
3. Position the Rectangles in such a way that:
   1. The museum covers the entire screen
   2. The characters are far enough for the painting to fit well in their hands
   3. The painting itself should be adjusted so that it looks like the characters are carrying it
4. In the game Update, increment the character’s X coordinate until they reach the empty wall spot
5. Stop the characters and push the painting into place by incrementing its Y coordinate in the Update
6. Change the characters’ positions by replacing their image in Unload and calling Unload in the Update
7. Make the characters move by incrementing their X coordinate in the Update and let them leave the screen

# Mavs

1. Initialize double variables for the timer, the initial straight velocity (Vo), and the angle
2. Initialize 3 Rectangles for the ball, the basket, and the court
3. Make transitional double variables for the ball’s X and Y coordinate (posX and posY)
   1. posX = ballRect.X
   2. posY = ballRect.Y
4. Initialize double variables for the initial X velocity and the initial Y velocity
   1. initXVel = Vo \* cos(Θ)
   2. initYVel = Vo \* sin(Θ)
5. Load images of each object through the Rectangles into Texture2D
6. Draw the initial scene with the ball on 1 edge and the basket on the other edge, with DrawString using the timer that starts from 5 seconds (300 ticks)
   1. (300 - timer)/60 on each Update
7. In the game Update, add to the timer and update the X and Y coordinates of the ball
   1. posX += (initXVel \* (timer/60))
   2. posY -= (initYVel \* (timer/60)) - (9.8 \* ((timer/60)^2))
8. Then, Update the Rectangle with the integer version
   1. ballRect.X = (int) posX
   2. ballRect.Y = (int) posY
9. When the ball’s X and Y coordinate are close to those of the basket (about 15 units tolerance for both coordinates), check if timer is greater than 0
   1. If there’s time left, the throw was successful
   2. Otherwise, the throw failed
10. Keep adjusting angle by hard code till you get the right answer

# School Home School

1. Initialize an int variable for the timer, an array of Strings, an array of Colors, and an array of Rectangles for the images
2. Initialize 6 Rectangle variables
   1. 2 for the school and its background
   2. 2 for the home and its background
   3. 2 for the classroom and its background
3. Load images of each location through the Rectangles into Texture2D
4. Load the SpriteFont to be used
5. In the game Update, add to the timer and check
   1. If 7 seconds passed, change the text by accessing the String array. Change the Color of the text and the background Rectangles by accessing the Color array
   2. If 4 seconds passed, change the Rectangle for the images by accessing the Rectangles array
6. Draw the Rectangles and the text Strings accordingly

15 pts

# Roman Pig

1. Initialize an int variable for the timer, an array of 3 Strings, and 2 Rectangle and 2 Texture2D’s for both pigs
2. Load images of the 2 pigs through the Rectangles into Texture2D’s
3. Load the SpriteFont to be used
4. Create method to translate given String to Pig Latin
   1. Take String and loop until you hit the first vowel
   2. Extract the preceding characters and put them at the end of the word
   3. Add the suffix “ay”
5. In the Update, add to the timer
6. Change the String being used by the pigs when timer reaches a certain point
7. In the Draw
   1. Draw both the pigs using the Texture2D’s
   2. DrawString from the array on one pig’s side and DrawString of the translation on the other pig’s side with the helper method

30 pts

# Castle Mania

The scene of the play goes as follows

* A boy and a girl come out to play a game
* They play the game using a tennis ball but the girl fails to catch it. In the meantime, a knight’s ghost is roaming around.
* From time to time, the herald brings announcements.
* A joker comes out of nowhere and flies off using helium balloons, leaving the boy and the girl wondering where he is going.
* A solar eclipse occurs after that.
* A zombie appears and scares the children away.
* The ghost kills the zombie and everything is happy again.

1. Initialize an int variable for the timer, 2 Strings to narrate the story and present the herald’s messages, and 7 Rectangles for the background and the characters
2. Load images for the 7 game components through the Rectangles into Texture2D’s
3. Load the SpriteFont’s and initialize the Vector’s to be used for the Strings
4. Increment timer on each Update to progress in the story
5. Follow along the script and Update during each step of the script using multiple if statements incorporating the timer’s data
   1. Change the displayed Strings to match the content of the current scene
   2. Enable or disable the herald’s features as needed with a boolean
   3. Change the X and Y coordinates of needed characters
   4. Change the Texture2D’s for any characters as needed by replacing the image reference with a new constructor
6. In the Draw method,
   1. Control the times you want to draw characters and make them disappear using if statements to selectively Draw
   2. Incorporate a Color variable to change the background flexibly

First, I will bring the girl and boy in by changing the X coordinates. I will display the first scene’s narration. During this scene, I will reveal the ghost knight for the first time. I will then change the image for the boy as he throws the ball and make the ball move until it leaves the screen. At the same time, I will display the second message for the play then. In the third scene, I will bring the clown in by changing the X coordinates and make him fly away by changing the Y coordinates. I will also ensure the third message is shown. For the fourth scene, I hope to create the solar eclipse effect by gradually turning the screen black and explaining with the narration. The herald will come in later to declare the zombie’s entry. I aim to send the zombie in by changing the X coordinates again. He will scare the children away, who will also move using the X coordinates. The children will disappear and the zombie will stay in the middle. Now, the ghost knight will appear in a new image with sword drawn out, and kill the zombie by running into him. The message and the herald’s proclamation at the end will finish the play.