1.2.4

**Procedure Questions**

7a. There are 12 global variables

7b. postScores

7c. Ball1, Clock1, Screen 1, Ball1

9. Direction Role: Most Recent. Direction Purpose: To move the ball in a certain path.

TO\_FLIP Role: Fixed. TO\_FLIP Purpose: Change the direction of the ball by 180 and sending it in the opposite direction once it hits a side of the screen

10. Score Role: Accumulator. Score Purpose: Keeps total of number of times touched.

MAX\_BALLS Role: Fixed. MAX\_BALLS Purpose: Make sure the ball is only clicked 5 times before the game ends

11. currentColor Role: Most Recent. currentColor Purpose: Change the color of the ball once the ball is clicked. currentColor.

colorClicked Role: Aggregator. colorsClicked Purpose: Sorts colors of when it’s been touched

12. TITLE\_PAD\_X Role: Fixed. Purpose: Put the title in the correct position on the x axis.

TITLE\_PAD\_Y Role: Fixed. TITLE\_PAD\_Y Purpose: Put the title in the correct position on the y axis.

13. I Role: Stepper. I Purpose: It goes through the list of colors clicked and posts the scores.

RED\_CHANNEL- Role: Fixed. Purpose: It points to the current color in the red variable

GREEN\_CHANNEL- Role: Fixed. Purpose: Points to the current color in the green variable

BLUE\_CHANNEL- Role: Fixed. Purpose: Points to the current color in the blue variable

SCORE\_PAD\_Y- Role: Fixed. Purpose: Give the position of the scores on the y axis

SCORE\_PAD\_X- Role: Fixed. Purpose: Give the position of the scores on the x axis

blueValue- Role: Most Recent. Purpose: Store the value of blue of the current color

greenValue- Role: Most Recent. Purpose: Store the value of green of the current color

redValue- Role: Most Recent. Purpose: Store the value of red of the current color

14a. Fixed Value: Max Balls

i. Assign Value: A15

ii. Use Value: C3

b. Most Recent: currentColor

i. Assign Value: F5

ii. Use Value: F8

c. Stepper: i

i. Initialize Value: I6

ii. Increment Value: I9

d. Walker: currentColor

i. Assign element from collection: F5

ii. Use element: I10

e. Accumulator: Score

i. Initialize: A16

ii. Accumulate: C2

iii. Use accumulation: C3

f. Aggregator:

i. Initialize: colorsClicked

ii. Aggregate: F9

iii. Use aggregation: H10

**Conclusion Question:**

1.

* Most Recent: An app that I use that uses this would be any social media that brings up the latest stories or news.
* Fixed: Almost all apps have a fixed variable in them, whether that be a logo, a model, or a text phrase. Facebook will always be Facebook and that is unchanging when using the app
* Accumulator: I have a game called Egg Inc. which is a tycoon game where you accumulate money based on how many chickens you have and the quality of the hatchery. The money accumulates over time and you are able to spend it on new things.
* Aggregator: An app that uses this would be something like Google Drive where it keeps a list of everything you have stored on it but still keeps them individually accessible.
* Stepper: An app that uses this could also be Egg Inc. You start at $0 and a small amount of chickens. You must increase your money from $0 to continue.
* Walker: This could also be Google Drive because a certain document or video is assigned a place in the Drive to be used later
* Best-so-Far: This could be in any game app that keeps a leaderboard that shows the highscores
* One Way Flag: Egg Inc. could also fit this. When you buy a new henhouse or hatchery, you keep it until the game resets. You can only upgrade a hatchery/henhouse and never downgrade