

Create – Applications From Ideas

Written Response Submission Template

Please see [Assessment Overview and Performance Task Directions for Student](#) for the task directions and recommended word counts.

Program Purpose and Development

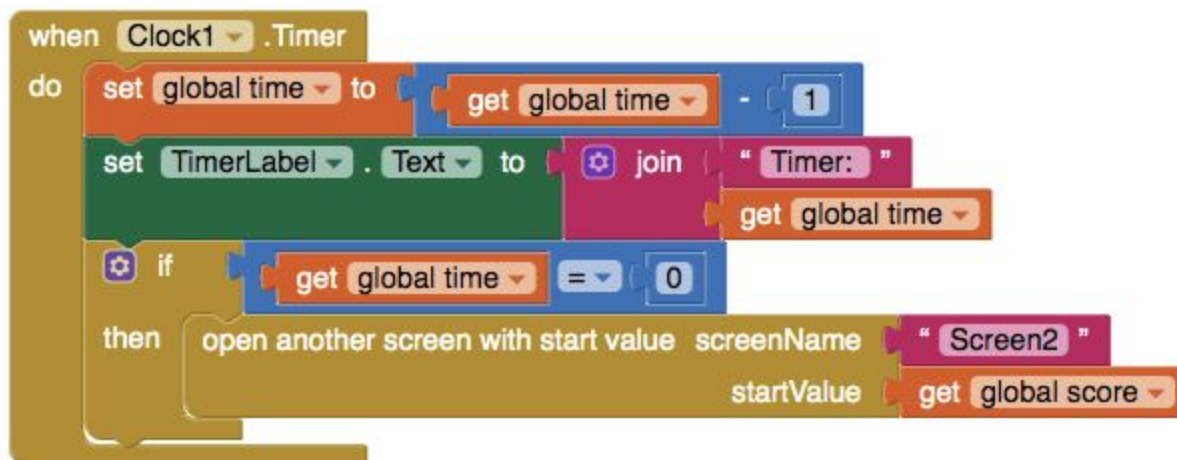
2a)

The programming language I used was MIT App Inventor. The purpose of my program is a game where the user clicks pictures of comets to get points within a time limit. My video shows how the game works, and shows what happens when you win and when you lose. It shows how the timer counts down, and how the score increases every time a comet is clicked. If the score reaches 10, then the user wins, If it does not reach 10, the user loses.

2b)

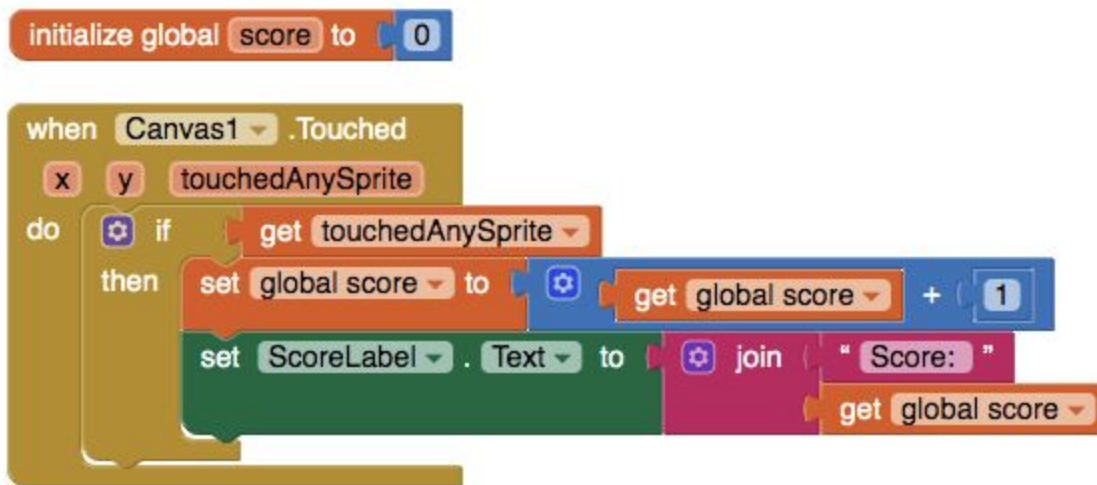
To develop this app, I had to figure out a few small things to make sure it would run as intended. One difficulty I encountered was when I was coding the comets. I had to use a random integer procedure, and I did not know which numbers to use for the comets. I had to keep using different numbers and looking at the app to make sure none of the comets ever went off the screen, and then I went between the highest and lowest numbers for both the x and the y coordinates. Another difficulty came up when I wanted to increase the speed of the comets. They were moving whenever the clock ticked, and I tried decreasing the amount of time between each tick. However, there was also a timer feature that counted down the seconds every time the clock ticked, and this was affected with the decreased intervals. To fix this, I added a second clock, and separated the timer from the comets. Both of these were independent program development.

2c)



Whenever the clock ticks, the time variable decreases by one. Also, the timer label is changed to Timer: and the current value of the variable. This makes it so that the screen shows the timer label decreasing by one every second. If the time variable gets to zero, then another screen is opened, and the score variable (which changes from other events in the app) is sent to the new screen. Because of all of this, the time variable counts down every second, which is visible to the user of the app, and once it hits zero, another screen is opened to show the user the result of the game.

2d)



The score variable is an abstraction that changes every time a Sprite is touched. If a sprite is touched, the abstraction allows the number to continuously increase by one. At the end of the game, this variable is sent to the next screen. If the value of the variable is greater than 10, the user wins. If it is less than 10, the user loses. This abstraction allows the score to be easily tracked by the user and by the app. Without it, score would not be able to be easily recorded.