TITLE

Bop-It!

LAB #06

SECTION #08

FULL NAME

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Problem

For this lab we had to create a game that is similar to bop it. We had to have the program chose a random button on the DualShock controller and then give the user a limited time to press that button. If they pressed the right button then a new one would be chosen and the given time would be reduced, if they ran out of time or pressed a wrong button, then the game would end and output the users score.

Analysis

For this problem I needed to figure out a way to only register one press of the button, and not allow a new button to be registered until the first button was released. I also needed to find a way to create a timer. Lastly, I needed to find a way for the game to choose a random button and keep track of the number of successful attempts, or the score.

Design

I started by recognizing that the best way for the game to choose a random button would be a switch case with the case being set to a random number from 0-3. I then had to find a way to only register a single press of the button. For this I decided to use some nested if statements with a Boolean that gets toggled. For starters it checks if the bool is false, if it is then it runs the code once. It then checks if the button is pressed, if it is, it then toggles to bool to true. If the bool is true when it runs through again, then it checks if the button is pressed, and if it is not, it then sets the bool to false. I kept track of a few states throughout the game. One of these was the score, I also kept track of if the game had been started or not, and if the game should continue to be played or if it should stop. For the timer, I used an if statement to check if the current time on the controller was greater than the initial time (when the computer output what button to press) plus the allotted time (how long the user has to input a button).

Testing

When testing the code, I had to run it multiple times to make sure it worked correctly. I started by just playing the game for as long as I could and noticed some bugs. After fixing those bugs I made sure to play for as long as I could. I also made sure to intentionally fail by running out of time and fail by pressing the wrong button, in order to be sure that those functions worked properly.

Comments

In this lab I got a better understanding of how switch cases work, and learned how they can be better than if, else if trees in the right situation. I also learned some uses for the time function on the controller. Learning how to only register one button press will be very useful in the future, because I have a feeling it will be necessary for other labs I have to do.