

TITLE Conditionals

LAB #5

SECTION #7

FULL NAME

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Problem

The purpose of this lab was to create a program that can take the magnitude of the acceleration and convert them into words depending in the controllers positioning and track in real time. Additionally, the triangle when pressed should stop the code entirely. The objective of this lab was to develop problem-solving skills in using if statements in C and understand how to interpret the acceleration values in terms of gravity and understanding testing multiple conditions

Analysis

For this problem, we will calculate the magnitude of the acceleration from the DualShock 4. You will read from ds4rd.exe, but this time you will read the inputs over and over inside a “while” loop. Your code should be written in a modular fashion and include 3 or more of your own functions.

Design

The problem of the lab was to take the magnitude and convert them into words depending in the controllers positioning and track in real time. First, needed to declare the buttons using scan and print statements. Then, using if else statements to use the numbers that were outputted by the controllers and setting them so when it cross that certain line of numbers it will print either left, right, top, back, or front depending on the controller’s position

Testing

The problem of the lab was to take the magnitude and convert them into words depending in the controllers positioning and track in real time. However, the program failed to the words not printing out or not being able to compile. I saw that it first the way I put my curly brackets and fix them and then it was able to run. Every time the controller was waved certain direction it printed out the word assigned and when I hit triangle it stopped the code.

Comments

The lab was pretty hard, did not know what to do haff of the time and my controller was not working. For example, our program was not compiling. The problem was a simple as double checking to make sure there were semicolons and parenthesis in all the correct locations.

Screen Shots

The image shows a Windows desktop environment. In the foreground, a Visual Studio Code editor window is open, displaying a C program. The code is a simulation for aligning a 3D object (a cube) with a target. It uses a series of conditional statements to check the object's position relative to the target and prints messages indicating the required alignment (e.g., "right", "top", "bottom", "front", "back", "left"). The code is as follows:

```

78 else if(close_to(.3, -1, x))
79 {
80     printf("right\n");
81     fflush(stdout);
82 }
83
84 else if(close_to(.3, 1, y))// tracks alignment for controller
85 {
86     printf("top\n");
87     fflush(stdout);
88 }
89
90 else if(close_to(.3, -1, y))// tracks alignment for controller
91 {
92     printf("bottom\n");
93     fflush(stdout);
94 }
95
96 else if(close_to(.3, 1, z))// tracks alignment for controller
97 {
98     printf("front\n");
99     fflush(stdout);
100 }
101
102 else if(close_to(.3, -1, z))// tracks alignment for controller
103 {
104     printf("back\n");
105     fflush(stdout);
106 }
107
108 }

```

In the background, a terminal window is open, showing the execution of the program. The terminal output is as follows:

```

C:\cygwin\ufal2022\se185\lab05
$ ./ds4rd.exe -d DS4rDRC -D DS4rDRC -a -g -b ./lab05
$ gcc lab05.c -o lab05
./usr/lib/gcc/x86_64-pc-cygwin/11.2.0/x86_64-pc-cygwin/bin/ld: cannot open output file: collect2: error: ld returned 1 exit status
$ ./ds4rd.exe -d DS4rDRC -D DS4rDRC -a -g -b ./lab05
LEFT
LEFT
LEFT
TOP
TOP
RIGHT
TOP
TOP
TOP
TOP
TOP
BACK
BACK
BACK
BACK
BACK
LEFT
LEFT
LEFT
LEFT
LEFT
LEFT

```