BOP IT!

LAB 06

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SECTION 5

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PROBLEM

Create a game where the user is asked to push a button on the DualShock4 and the game continues till either the time runs out or a wrong button is pressed.

ANALYSIS

Use the ds4rd.exe file provided. We also need to provide a menu and give the user instructions on what to do. The button that is to be pressed will be determined randomly by the computer.

DESIGN

- Download the ds4rd.exe
- Create a menu
- Keep track of time
- End if time runs out or a wrong button is pressed

TESTING

The program should end when time runs out. Manually keep track of time and compare with the code.

COMMENTS

Make sure the code only registers one press of a button on the DS4. Also be sure to have the correct mechanism to reduce time.

SOURCE CODE:

```c
/*--------------------------------------------------------------------------------
-                          SE 185: Lab 06 - Bop-It!                              -
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--------------------------------------------------------------------------------*/

/*--------------------------------------------------------------------------------
-                               Includes                                         -
--------------------------------------------------------------------------------*/
#include <stdio.h>
#include <stdlib.h>
#include <time.h>
#include<unistd.h>

/*--------------------------------------------------------------------------------
-                               Prototypes                                       -
--------------------------------------------------------------------------------*/
void lose(int button, int timeMilli, int timer);
int play(void);
void extras(void);


/*--------------------------------------------------------------------------------
-                               Notes                                            -
--------------------------------------------------------------------------------*/
// Compile with gcc lab06.c -o lab06
// Run with ./ds4rd.exe -d 054c:05c4 -D DS4_BT -t -b | ./lab06

/*--------------------------------------------------------------------------------
-                               Implementation                                   -
--------------------------------------------------------------------------------*/


int main(int argc, char *argv[]){

    int timeMilli = 0;
    int triangle, circle, x_button, square;
    int unre1, unre2, unre3, unre4;
    int round = 0;

    printf("WELCOME TO BUTTONS OF DEATH!\n");
    printf("Please press the Circle Button to begin!\n");
    printf("\n");
```

```
48      while(1){
49          scanf("%d, %d, %d, %d, %d, %d, %d, %d, %d",
50          &timeMilli, &triangle, &circle, &x_button, &square, &unre1, &unre2, &unre3, &unre4);
51
52          if(circle == 1){
53
54              round = play();
55
56              printf("You made it through %d rounds!\n",round);
57
58              break;
59          }
60
61      }
62
63      return 0;
64
65  }
66
67
68  int play(void){
69
70      int button, pressedButt = 0, currentButton= 0;
71      int timeMilli = 0,triangle, circle, x_button, square;
72      int unre1, unre2, unre3, unre4;
73      int timer = 2500;
74      int t2 = 0;
75      int round = 0;
76      srand(time(NULL));
77
78      extras();
79
80      while (1){
81
82          printf("\n");
83          pressedButt = 0;
84          button = (rand() % 4) + 1;
85
86          if(button == currentButton){
87              continue;
88          }
89
90          else{
91          switch(button){
92
```

```
92
93          case 1:
94
95          printf("Press the triangle button!\n");
96          printf("You have %d milliseconds!\n", timer);
97
98          extras();
99
100         while(pressedButt == 0 && (timeMilli-t2) < timer){
101
102         scanf("%d, %d, %d, %d, %d, %d, %d, %d, %d",
103         &timeMilli, &triangle, &circle, &x_button, &square, &unre1, &unre2, &unre3, &unre4);
104
105         if(triangle == 0 && circle == 0 && x_button == 0 && square == 0){
106
107             pressedButt = 0;
108         }
109
110         else{
111
112             t2 = timeMilli;
113             pressedButt = 2;
114         }
115
116     }
117
118         if(triangle == 0 && circle == 0 && x_button == 0 && square == 0){
119
120             printf("\nYou ran out of time! :(\n");
121             break;
122         }
123
124         round++;
125         timer -= 100;
126
127         if(timeMilli <= 0){
128             printf("\nYou ran out of time! :(\n");
129             break;
130         }
131
132
133         if(triangle == 1){
134         continue;
135         }
```

```
137         else{
138 
139             printf("\nWrong button!\nYou lose! :(\n");
140             break;
141         }
142         break;
143 
144         case 2:
145 
146         printf("Press the circle button!\n");
147         printf("You have %d milliseconds!\n", timer);
148 
149         extras();
150 
151         while(pressedButt == 0 && (timeMilli-t2) < timer){
152 
153         scanf("%d, %d, %d, %d, %d, %d, %d, %d, %d",
154         &timeMilli, &triangle, &circle, &x_button, &square, &unre1, &unre2, &unre3, &unre4);
155 
156         if(triangle == 0 && circle == 0 && x_button == 0 && square == 0){
157 
158             pressedButt = 0;
159         }
160 
161         else{
162 
163             t2 = timeMilli;
164             pressedButt = 2;
165         }
166 
167     }
168 
169         if(triangle == 0 && circle == 0 && x_button == 0 && square == 0){
170 
171             printf("\nYou ran out of time! :(\n");
172             break;
173         }
174 
175         round++;
176         timer -= 100;
177 
178         if(timeMilli <= 0){
179             printf("\nYou ran out of time! :(\n");
180             break;
181         }
```

```
        if(circle == 1){
        continue;
        }

        else{

            printf("\nWrong button!\nYou lose! :(\n");
            break;
        }
        break;


        case 3:

        printf("Press the cross button!\n");
        printf("You have %d milliseconds!\n", timer);

        extras();

        while(pressedButt == 0 && (timeMilli-t2) < timer){

        scanf("%d, %d, %d, %d, %d, %d, %d, %d, %d",
        &timeMilli, &triangle, &circle, &x_button, &square, &unre1, &unre2, &unre3, &unre4);

        if(triangle == 0 && circle == 0 && x_button == 0 && square == 0){

            pressedButt = 0;
        }

        else{

            t2 = timeMilli;
            pressedButt = 2;
        }

    }

        if(triangle == 0 && circle == 0 && x_button == 0 && square == 0){

            printf("\nYou ran out of time! :(\n");
            break;
        }

        round++;
        timer -= 100;
```

```
230         if(timeMilli <= 0){
231             printf("\nYou ran out of time! :(\n");
232             break;
233         }
234 
235 
236         if(x_button == 1){
237         continue;
238         }
239 
240         else{
241 
242             printf("\nWrong button!\nYou lose! :(\n");
243             break;
244         }
245         break;
246 
247         case 4:
248 
249         printf("Press the square button!\n");
250         printf("You have %d milliseconds!\n", timer);
251 
252         extras();
253 
254         while(pressedButt == 0 && (timeMilli-t2) < timer){
255 
256         scanf("%d, %d, %d, %d, %d, %d, %d, %d, %d",
257         &timeMilli, &triangle, &circle, &x_button, &square, &unre1, &unre2, &unre3, &unre4);
258 
259         if(triangle == 0 && circle == 0 && x_button == 0 && square == 0){
260 
261             pressedButt = 0;
262         }
263 
264         else{
265 
266             t2 = timeMilli;
267             pressedButt = 2;
268         }
269 
270     }
```

```
        if(triangle == 0 && circle == 0 && x_button == 0 && square == 0){

            printf("\nYou ran out of time! :(\n");
            break;
        }

        round++;
        timer -= 100;

        if(timeMilli <= 0){
            printf("\nYou ran out of time! :(\n");
            break;
        }


        if(square == 1){
        continue;
        }

        else{

            printf("\nWrong button!\nYou lose! :(\n");
            break;
        }
        break;


    }
        currentButton = button;



    return round;
    }
    }
}

void extras(void){

        int triangle, circle, x_button, square,a1, a2, a3, a4=0;
        int t =0;

        for(int i=0;i<100;i++)
        scanf("%d, %d,%d,%d,%d,%d,%d,%d,%d",&t, &triangle, &circle, &x_button, &square,&a1, &a2, &a3, &a4);

}
```

OUTPUT:

```
WELCOME TO BUTTONS OF DEATH!
Please press the Circle Button to begin!
Press the triangle button!
You have 2500 milliseconds!
Press the cross button!
You have 2340 milliseconds!
Wrong button!
You lose! :(
You made it through 1 rounds!
```

```
WELCOME TO BUTTONS OF DEATH!
Please press the Circle Button to begin!
Press the square button!
You have 2500 milliseconds!
Press the cross button!
You have 2340 milliseconds!
Press the circle button!
You have 1200 milliseconds!
Press the cross button!
You have 340 milliseconds!
You ran out of time! :(
You made it through 4 rounds!
```

Questions:

1. How did you randomize the buttons that needed to be pressed?

I used the rand function in and assigned any value from 1-4 to cases of switch. So, for example if we get 3 that will be case 3 and hence x button will be required.

2. What game states, if any, did you keep track of?

I kept track of the time as the game should end when the time runs out or a wrong button is pressed.

3. What mechanism did you use to make sure extraneous button presses were not registered?

Scanf statement and I used a function called extra() to make sure no extra button is pressed.