Project 2

Ahmed abdulmjid

Roulette Table Game

Course CSC 5
Section 46332

Description:

Player will be able to gamble on a roulette table. They will be six bet options where, the player,
gets to select one. The player has the option to bet any amount possible. They will be informed
on the winning returns if the bet is successful. There are six bet options:
1. Bet of Spin is Black or Red
2. Bet of the Spin number is ODD
3. Bet of the Spin number is EVEN
4. Bet of the Spin number is between 1-18
5. Bet of the Spin number is between 19-36
6. Bet of the Spin number is guessed correct.
If player wins bet numbers 1 through 5 -player will win 75% on the initial bet. If player hits the
jackpot bet number 6-player will win the third power of the initial bet.

Menu:

Player will be display with this menu option be inputting the amount of money to be bet. After

the input of money, the player will select which bet to play

```
Enter Much cash you want to bet: $100

Enter the bet you are placing: 1

What color will you choose Black/Red (B/R)B
The Wining number is: 21
The Color is: Red
You lose :$100.00

Do you want to play again (Y/N) ▮
```

Player will input the amount of money and bet 1. Player will input an option of Blac Red. Displays the wining color, wining number, and the won or lost in the game.

Bet 2:

```
Enter Much cash you want to bet: $100

Enter the bet you are placing: 2

The Wining number is: 15
The Color is: Black
You win :$75.00

Do you want to play again (Y/N) ▮
```
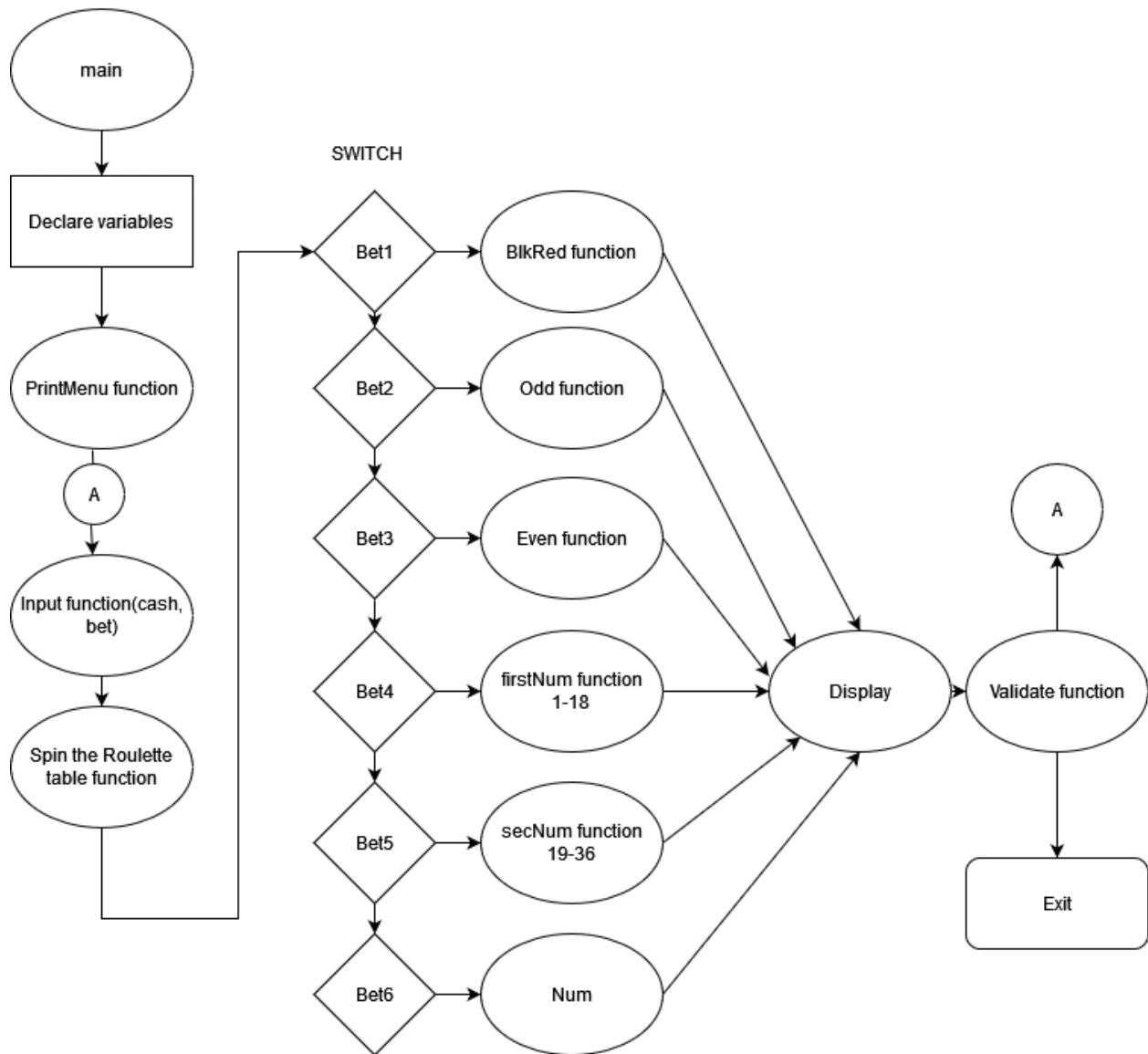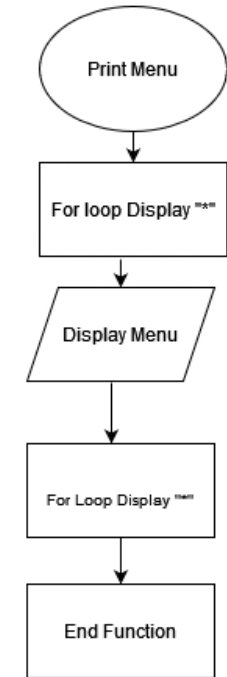
Player will input the amount of money and bet 2. Displays the wining color, wining number, and the won or lost in the game. (The wining number was an ODD).
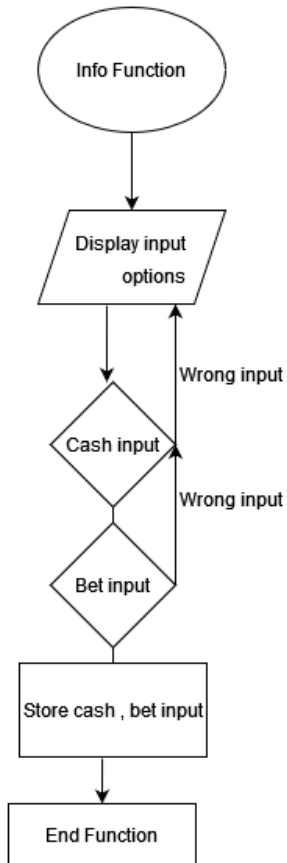
MAIN

main

Declare variables

PrintMenu function

A

Input function(cash, bet)

Spin the Roulette table function

SWITCH

Bet1 → BlkRed function

Bet2 → Odd function

Bet3 → Even function

Bet4 → firstNum function 1-18

Bet5 → secNum function 19-36

Bet6 → Num

Display

Validate function

A

Exit

Functions

Print Menu Function

(Print Menu)

↓

[For loop Display "*"]

↓

/ Display Menu /

↓

[For Loop Display "*"]

↓

[End Function]

Get Input Function

(Info Function)

↓

/ Display input options /

↓

< Cash input > — Wrong input →

↓

< Bet input > — Wrong input →

↓

[Store cash , bet input]

↓

[End Function]

Spin Function

(Spin Function)

↓

[Declare random winner]

↓

[Declare winning color]

↓
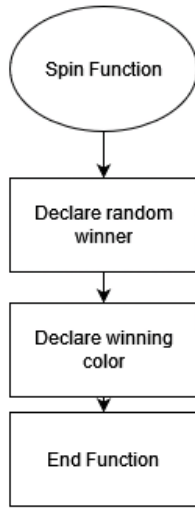
[End Function]

Black or Red Input Function

(Blk/Red Function)

↓

/ Display input options /

↓

< Color input > — Wrong input →

↓

[Store color]

↓

[End Function]

Odd Function

(OddFunction)

↓

[if/else odd]

↓

[return cash]

Even Function

(Even Function)

↓

[if/else Even]

↓

[return cash]
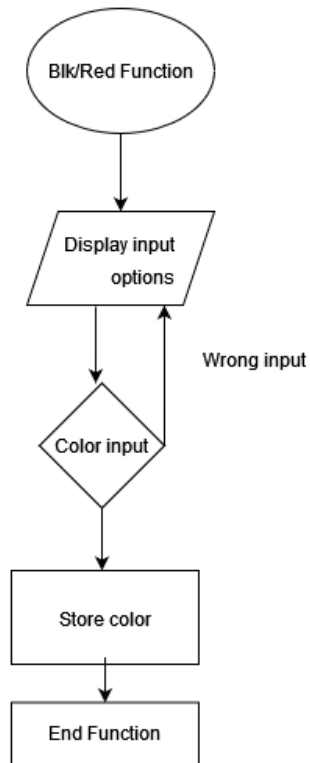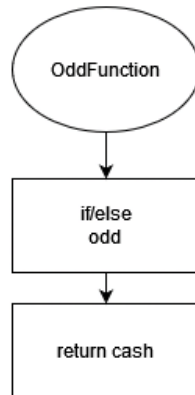
FirstNum Function

(First Num Function)

↓

[if/else 1-18]

↓

[return cash]
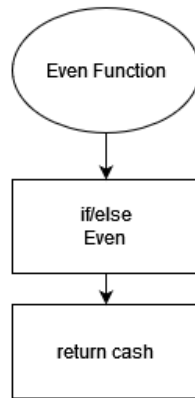
Sec Num Function

(Sec Num Function)

↓

[if/else 19-36]

↓

[return cash]

Num Function

(Number Function)

↓

/ Display input options /

↓

< num input > — Wrong input →

↓

[if/else num == random]

↓

[return cash]
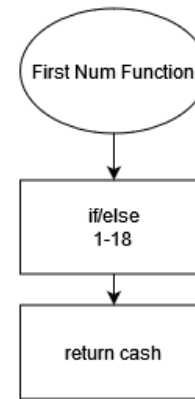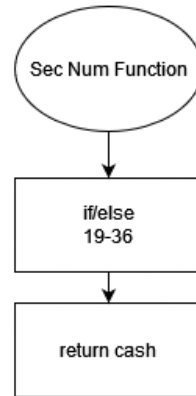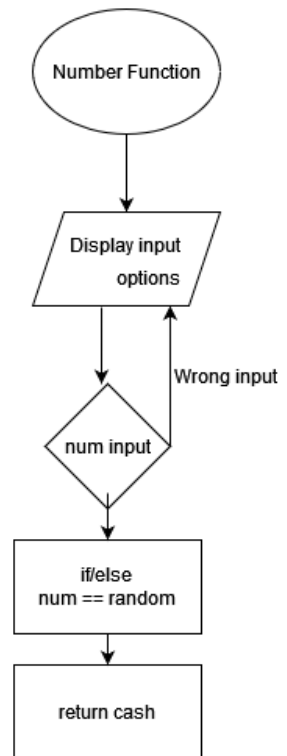
Functions

Display Function

```
Display
```

↓

Display wining number and color

↓

if else win cash

↓

Display cash win or lost

↓

End function

Validate Function

```
Vallidate
```

↓

Display redo

↓

return bool
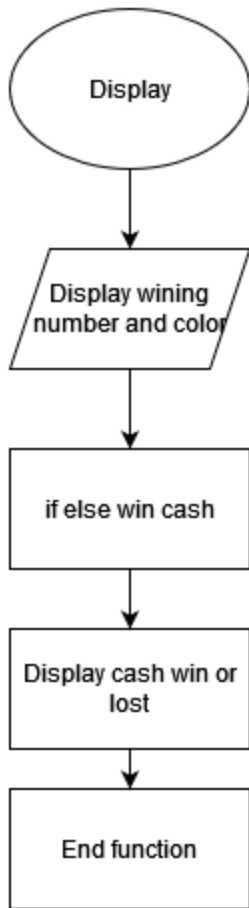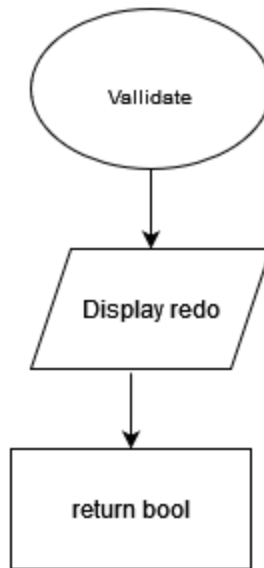
```cpp
 4      * File:    main.cpp
 5      * Author: Elias Silva
 6      * Purpose: C++ Template To be used in all future Assignments
 7      *
 8      * Created on June 23, 2022, 8:28 PM
 9      */
10
11      //System Libraries
12      #include <iostream>
13      #include <stdlib.h>
14      #include <cstring>
15      #include <time.h>
16      #include <cmath>
17      #include <iomanip>
18      using namespace std;
19
20      //Global Constants
21
22
23      //Mathematical/Physics/Conversions, Higher dimensioned arrays
24
25      //Function Prototypes
26
27      void printMenu()
28      {
        cout << endl;
30          cout << endl;
31          cout  << "               ";
32          for( int i = 0; i < 100; i++)
33              cout << "*";
34          cout << endl;
35          cout  << "            ";
36              cout  << "                          ";
37
38           cout << "Elias Roulette Table MENU BETS:" << endl;
39           cout << "                    " << "1. Black/Red = 75%" <<   endl;;
40           cout << "                    " << "2. ODD = 75%" << endl;
41           cout << "                    " << "3. EVEN = 75%" <<   endl;
42           cout << "                    " << "4. 1-18 = 75%" << endl;
43           cout << "                    " << "5. 19-36 = 75%" << endl;
44           cout << "                    " << "6. Number = 3Power" << endl;
45          cout  << "           ";
```

```cpp
42          cout << "                    " << "4. 1-18 = 75%" << endl;
43          cout << "                    " << "5. 19-36 = 75%" << endl;
44          cout << "                    " << "6. Number = 3Power" << endl;
45       cout  << "              ";
46        for( int i = 0; i < 100; i++)
47            cout << "*";
48    };
49
50    void Info(float& cash , int& bet)
51    {
52        cout << endl;
53         bool validate = false;
54        do {
55         validate = false;
56        cout << "Enter Much cash you want to bet: $";
57        cin >> cash;
58        if( cash < 0 )
59        {
60            cout << "Wrong input try again " << endl;
61            cout << endl;
62            validate = true;
63        }
64
65        }while(validate);
66
67        cout << endl;
68
69        do
70        {
71            cout  << "Enter the bet you are placing: ";
72          cin >> bet;
73          cout << endl;
74           validate = false;
75
76        if( bet < 0 || bet > 6 )
77        {
78            cout << "Wrong input try again " << endl;
79            cout << endl;
80            validate = true;
81        }
82        }while(validate);
83
```

```cpp
97    };
98    void Display(float cash, string color, int random)
99    {
100        string a = "The Wining number is: ";
101
102        string  b  = "The Color is: ";
103
104        ofstream rfile("rtext.txt");
105
106        rfile << a;
107        rfile << random;
108        rfile << endl;
109        rfile.close();
110        string txt;
111        cout << endl;
112
113
114        ifstream readfile("rtext.txt");
115
116        while(getline(readfile, txt)) cout << txt;
117        cout << endl;
118
119        readfile.close();
120
121        ofstream cfile("ctext.txt");
122        cfile << b;
123        cfile << color;
124
125        cfile.close();
126         ifstream creadfile("ctext.txt");
127        while(getline(creadfile, txt)) cout << txt;
128        cout << endl;
129
130        creadfile.close();
131
132
133        cout  << fixed <<  setprecision(2);
134
```

```cpp
        float temp = cash;
        while(temp > 0)
        {
            cout << "You win :$" << temp  << endl;
            temp*=-1;
        };

        float temp2 = cash;

        if(temp2 < 0)
        {
            temp2 *= -1;

            cout << "You lose :$" << temp2 << endl;
        };

    };
float BlkRed(float cash, string color)
{
        char temp;
        string temp1="a";
        bool validate;

        do
        {
         validate = false;
         cout << "What color will you choose Black/Red (B/R)" ;
        cin >> temp;
        temp1= "error";

        if(temp == 'B' || temp == 'b')
            temp1 = "Black";
        else if(temp == 'R' || temp == 'r' )
            temp1 = "Red";

        if( temp1 == "Black" || temp1 == "Red")
        {
```

```cpp
170        if( temp1 == "Black" || temp1 == "Red")
171        {
172             if (color == temp1)
173                return cash*.75;
174            else
175                return -1*cash;
176        }else
177        {
178            cout <<endl;
179            cout << "Wrong input try again " << endl;
180            cout << endl;
181            validate = true;
182        }
183        }while(validate);
184
185    };
186    float odd(float cash , int num)
187    {
188       if ( num%2 != 0)
189            return cash*.75;
190        else
191            return -1*cash;
192    };
193    float even(float cash, int num)
194    {
195        if ( num%2 == 0)
196            return cash*.75;
197        else
198            return -1 *cash;
199    };
200    float  firstNum(float cash, int num)
201    {
202        if (num < 19 )
203            return cash*.75;
204        else
205            return -1*cash;
```

```cpp
204        else
205            return -1*cash;
206    };
207    float  secNum(float cash, int num)
208    {
209        if (num > 19 )
210            return cash*.75;
211        else
212            return -1*cash;
213    };
214    float num(float cash, int random)
215    {
216        int num;
217        bool validate;
218        do
219        {
220        cout << "What number do you choose: ";
221        cin >> num;
222
223        validate = false;
224        if(num <1 || num > 36)
225        {
226            cout <<endl;
227            cout << "Wrong input try again " << endl;
228            cout << endl;
229            validate = true;
230        }
231        }while(validate);
232
233        if(num == random)
234            return pow(cash,3);
235        else
236            return -1*cash;
237
238    };
```

```cpp
238     };
239     bool validate()
240     {
241         char ans;
242         bool validate;
243
244         do
245         {
246         validate = false;
247
248         cout << endl;
249         cout << "Do you want to play again (Y/N) ";
250         cin >> ans;
251
252         if ( ans == 'Y' || ans =='y' || ans == 'N' || ans == 'n')
253         {
254             if ( ans == 'Y' || ans == 'y')
255                 return true;
256             else if ( ans == 'N' || ans == 'n')
257                 return false;
258         }else
259         {
260             cout << "Wrong input try again" << endl;
261             validate = true;
262         }
263
264         }while(validate);
265     };
266     int main(int argc, char** argv)
267     {
268
269         int  bet, random; // declare variables for the bet and random wining number
270         float cash; // cash output
271         string color; // color of spin
```

```cpp
261            validate = true;
262        }
263
264        }while(validate);
       };
266    int main(int argc, char** argv)
267    {
268
269        int  bet, random; // declare variables for the bet and random wining number
270        float cash; // cash output
271        string color; // color of spin
272
273        printMenu(); // display menu
274
275        do{ // ask if user wants to play again
276
277        Info(cash,bet); // input amount of cash and bet on menu
278        spin(random, color); // calculate the winning color and number
279
280        switch(bet) // calculate wining and display wining/loses
281        {
282            case 1: cash = BlkRed(cash, color);  // calculate cash wining/loses of color
283                    break;
284            case 2: cash = odd(cash,random); // calculate cash wining/loses of ODD winning number
285                    break;
286            case 3: cash = even(cash , random);// calculate cash wining/loses of EVEN winning number
287                    break;
288            case 4: cash = firstNum(cash, random);// calculate cash wining/loses of winning number lands between  1 - 18
289                    break;
290            case 5: cash = secNum(cash, random);// calculate cash wining/loses of winning number lands between  18 - 16
291                    break;
292            case 6: cash =num(cash,random); // C// calculate cash wining/loses of winning number is the correct as user inputs
293                    break;
294        }
295
296        Display(cash, color,random);// display wining/loses
297        }while(validate());  //ask to redo program
298
299        //Exit stage right
300        return 0;
301    }
302
```