```cpp
//
//  Roulette Simulation
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#include <iostream>
#include <string>
#include <iomanip>
#include <sstream>
#include <ctime>

using namespace std;
int initialChips = 1000;
int Wager = 0;
int exactWinning = 0;
int winningGuess = 0;
string winningGuessStr;
int wagerType;
char countinueTheGame;
string wagerTypeStr;
int currentBalance = 0;
const int HIGH = 37;
const int LOW = 0;
bool guessInRange = false;
bool wantToRedoRoullete = true;
char DoYouWantToPlayAgain = 'Y';



int main() {


    currentBalance = initialChips;

    while (wantToRedoRoullete == true) {




        cout << " Your current balance is: " << currentBalance << "Chip (s)." << endl;

        cout << "-------------------------------------------------------------------------" << endl;
        cout << "|  Input  |  Wager                                    |   Payout   |" << endl;
        cout << "-------------------------------------------------------------------------" << endl;
```

```
44          cout << "|    1    |  Even numbers ( 2,   4,   6,  ...,  36)   |   1 to  1  |" << endl;
45          cout << "|    2    |  Odd  numbers ( 1,   3,   5,  ...,  35)   |   1 to  1  |" << endl;
46          cout << "|    3    |  1st half     ( 1,   2,   3,  ...,  18)   |   1 to  1  |" << endl;
47          cout << "|    4    |  2nd half     ( 19, 20,  21,  ...,  36)   |   1 to  1  |" << endl;
48          cout << "|    5    |  Exact guess  ( 1 to 36,  0, and  00  )   |   35 to 1  |" << endl;
49          cout << "-------------------------------------------------------------------------" << endl;
50
51
52          // ******  Generating Random Number    *****
53
54          srand((unsigned int)time(0));
55          exactWinning = rand() % (HIGH - LOW + 1) + LOW;
56
57
58          // ****** For testing winning Number   ******
59          cout << "the exact Wining Number is: " << exactWinning << endl;
60
61
62
63          // ***** Different Options for betting ******
64
65
66          do {
67              cout << "Please enter a number between 1 to 5: " << endl;
68              cin >> wagerType;
69
70          } while (wagerType > 5 || wagerType < 1);
71
72          if (wagerType == 1) wagerTypeStr = "Even Numbers";
73          if (wagerType == 2) wagerTypeStr = "Odd Numbers";
74          if (wagerType == 3) wagerTypeStr = "1st half";
75          if (wagerType == 4) wagerTypeStr = "2nd half";
76          if (wagerType == 5) {
77              wagerTypeStr = "Exact guess";
78
79
80              // *******  Range of winingGuess  ********
81
82              do {
83                  cout << "Please Enter the Exact Guess in between 0 to 36 including 00!" << endl;
84                  cin >> winningGuessStr;
```

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85
86                  if (winningGuessStr != "00" && stoi(winningGuessStr) >= 0
                      && stoi(winningGuessStr) <= 36) {
87
88                      winningGuess = stoi(winningGuessStr);
89                      guessInRange = true;
90
91                  }
92                  if (winningGuessStr == "00") {
93                      winningGuess = 37;
94                      guessInRange = true;
95                  }
96              } while (!guessInRange);
97
98          }
99          // ******* The amount for bet     ********
100
101
102         do {
103             cout << "Please enter your wager: " << endl;
104             cout << "Your Wager should be less than " << currentBalance <<
                    " chip(s) or not to be Zero!" << endl;
105             cin >> Wager;
106             cout << " Your wager is " << Wager << " chip(s)" << "on " <<
                  wagerTypeStr << endl;
107
108         } while (Wager > currentBalance || Wager == 0);
109
110         currentBalance = currentBalance - Wager;
111
112
113         // Spin the Roulette
114
115         cout << "Let's spin the Roulette" << endl;
116
117         // *****  calculating the amount for winning or losing of User
              **********
118
119
120         switch (wagerType) {
121         case 1:
122             if (exactWinning % 2 == 0 && exactWinning != 0) {
123                 currentBalance = currentBalance + 2 * Wager;
124                 cout << "Well done! you won and your current balance is :
                      " << currentBalance << endl;
125             }
126             else {
127                 cout << "You Game Over, Sorry! " << endl;
128
```

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129             }
130
131             break;
132         case 2:
133             if (exactWinning % 2 == 1 && exactWinning != 37) {
134                 currentBalance = currentBalance + 2 * Wager;
135                 cout << "Well done! you won and your current balance is :
                      " << currentBalance << endl;
136             }
137             else {
138                 cout << "You Game Over, Sorry! " << endl;
139
140             }
141             break;
142         case 3:
143             if (exactWinning <= 18 && exactWinning >= 1) {
144                 currentBalance = currentBalance + 2 * Wager;
145                 cout << "Well done! you won and your current balance is :
                      " << currentBalance << endl;
146             }
147             else {
148                 cout << "You Game Over, Sorry! " << endl;
149
150             }
151             break;
152         case 4:
153             if (exactWinning <= 36 && exactWinning >= 19) {
154                 currentBalance = currentBalance + 2 * Wager;
155                 cout << "Well done! you won and your current balance is :
                      " << currentBalance << endl;
156             }
157             else {
158                 cout << "You Game Over, Sorry! " << endl;
159
160             }
161             break;
162         case 5:
163             if (winningGuess == exactWinning) {
164                 currentBalance = currentBalance + 36 * Wager;
165
166                 cout << "You Made it!! Perfect, you won and your current
                      balance is : " << currentBalance << endl;
167             }
168             else {
169                 cout << "You Game Over, Sorry! " << endl;
170
171             }
172             break;
173
```

```
174
175         default:
176             break;
177         }
178
179         // *******   Redo Condition   *************
180
181
182         if (currentBalance <= 0) {
183             wantToRedoRoullete = false;
184             cout << "You are Done! Hope see you next time!" << endl;
185         }
186         if (currentBalance > 0) {
187             cout << "Do you want to play again (Y/N) ?" << endl;
188
189             cin >> DoYouWantToPlayAgain;
190
191             if (toupper(DoYouWantToPlayAgain) == 'Y')
192                 wantToRedoRoullete = true;
193
194
195             else {
196                 cout << "You are Done! Hope see you next time !" << endl;
197                 wantToRedoRoullete = false;
198             }
199
200         }
201
202     }
203     return 0;
204
205 }
206
```