

lab05

```
1 // EE231002 Lab06. Blackjack probabilities
2 // 108061213, 劉奕緯
3 // Date: Oct, 14, 2019
4 // Date: Oct. 14, 2019
5
6
7 #include<stdio.h>
8 #include <stdio.h>
9
10 int main(void)
11 {
12     int cards, suc; // sum of #cards, # of success
13     int target, play; // the target point, times we play
14     int point, draw; // total points now, a draw card
15     int n; // # of cards now
16
17     printf("Points Probability #Cards\n"); // the output title
18     for (target = 4; target < 22; target++) {
19         for (target = 4; target < 22; target++) {
20             // target point from 4 to 21
21             suc = cards = 0; // initialize the # of card & cards
22             for (play = 1; play < 100000; play++) {
23                 play <= 100000
24                 // play 100000 times
25                 point = 0; // initialize the total points to 0
26                 draw = rand() % 13 + 1; // draw a card
27                 n = 1; // we have one card
28                 if (draw > 10) point += 10; // caculate the total points now
29                 else if (draw == 1 && point < 11) point += 11;
30                 else point += draw;
31                 do { // draw till exceed or equal
32                     draw = rand() % 13 + 1;
33                     draw = rand() % 13 + 1;
34                 } while (point < target);
35                 if (draw > 10) point += 10; // caculate the total points now
36                 if (draw > 10) point += 10; // caculate the total points now
37                 else if (draw == 1 && point < 11) point += 11;
38                 else if (draw == 1 && point < 11) point += 11;
39                 else point += draw;
40                 else point += draw;
41             } while (point < target);
42             if (point == target) { // if we got the aimed points
43                 cards += n;
44                 suc++; // we succeed!
45             }
46         }
47     }
48     printf("%3d", target); // output the result
49     printf("%11.2f%%", suc / 1000.0 ); // the success rate in 100000 plays
```

```

        printf("%11.2f%%", suc / 1000.0); // the success rate in 100000 plays
40     printf("%9.2f\n", cards / 1.0 / suc);
41                                     // the average cards to succeed
42     }                               // aim to another target point
43     return 0;
44 }

```

[Format] can be improved.

[Coding] lab05.c spelling errors: caculate(2)

[stdlib] needs to be included.

[100000] experiments should be performed for each point

Score: 79