#2020/12/25(五), 109 學年第一學期 資料科學應用 R 作業(7)

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> # ex5.2(a)

> bag <- c(rep("white", 6), rep("red", 4))

> set.seed(123456)

> ball <- sample(bag, 3)

> table(ball)

ball

　red white

　 1　　 2

>

> # ex5.2(b)

> n <- 10

> Re <- data.frame(white=rep(0, n), red=rep(0,n))

> for(i in 1:n){

+ 　　Exp <- sample(bag, 3)

+ 　　Re[i, 1] <- length(which(Exp == "white"))

+ 　　Re[i, 2] <- length(which(Exp == "red"))

+ }

> Re

　 white red

	white	red
1	2	1
2	2	1
3	1	2
4	2	1
5	2	1
6	1	2
7	2	1
8	2	1
9	1	2
10	2	1

>

> # ex5.2(c)

> n <- 100

> Re <- data.frame(white=rep(0, n), red=rep(0, n))

```
> for(i in 1:n){
+       Exp <- sample(bag, 3)
+       w <- Re[i, 1] <- length(which(Exp == "white"))
+       r <- Re[i, 2] <- length(which(Exp =="red"))
+ }
> Re
```

	white	red
1	1	2
2	3	0
3	1	2
4	1	2
5	2	1
6	2	1
7	3	0
8	1	2
9	1	2
10	1	2
11	1	2
12	2	1
13	2	1
14	2	1
15	2	1
16	3	0
17	2	1
18	1	2
19	1	2
20	2	1
21	2	1
22	1	2
23	3	0
24	2	1
25	3	0
26	1	2
27	1	2
28	2	1

29	2	1
30	2	1
31	2	1
32	2	1
33	3	0
34	2	1
35	2	1
36	3	0
37	1	2
38	1	2
39	2	1
40	3	0
41	2	1
42	1	2
43	2	1
44	2	1
45	2	1
46	1	2
47	1	2
48	2	1
49	3	0
50	2	1
51	3	0
52	1	2
53	1	2
54	1	2
55	1	2
56	2	1
57	1	2
58	2	1
59	2	1
60	2	1
61	2	1
62	2	1
63	2	1

64	1	2
65	1	2
66	2	1
67	1	2
68	2	1
69	2	1
70	1	2
71	2	1
72	2	1
73	1	2
74	2	1
75	1	2
76	2	1
77	2	1
78	1	2
79	2	1
80	2	1
81	3	0
82	2	1
83	0	3
84	0	3
85	1	2
86	2	1
87	3	0
88	3	0
89	3	0
90	1	2
91	1	2
92	2	1
93	2	1
94	2	1
95	2	1
96	1	2
97	2	1
98	2	1

| 99 | 1 | 2 |
| 100 | 2 | 1 |

```
> z <- Re$white == 2 & Re$red ==1
> length(which(z == Re))
[1] 66
> pro <- length(which(z == Re))/n
> pro
[1] 0.66
>
```