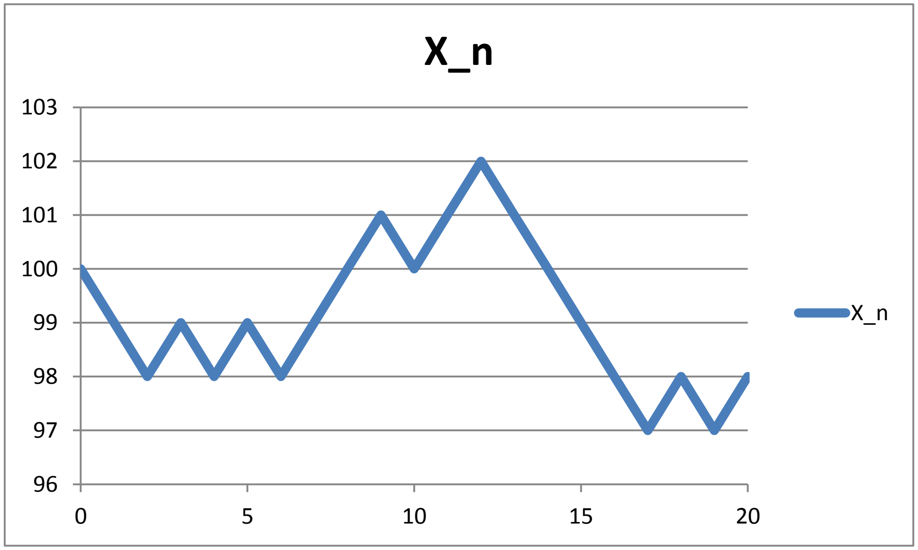
Simulating a simple random walk

Initial state (a)	100
Probability (p)	0.5

Time (n)	Random draw from U(0,1)	Z	X_n
0			100
1	0.53	-1	99
2	0.65	-1	98
3	0.30	1	99
4	0.50	-1	98
5	0.23	1	99
6	0.83	-1	98
7	0.26	1	99
8	0.36	1	100
9	0.48	1	101
10	0.64	-1	100
11	0.31	1	101
12	0.04	1	102
13	0.51	-1	101
14	0.77	-1	100
15	0.78	-1	99
16	0.83	-1	98



17	0.93	-1	97
18	0.33	1	98
19	0.58	-1	97
20	0.11	1	98