



Example

Input	Output
15	0 0
1	-1 0
2	0 1
3	1 0
4	2 -1
5	1 -1
6	0 -1
7	-1 -1
8	-2 -1
9	-3 -1
10	-2 0
11	-1 1
12	0 2
13	1 1
14	2 0
15	

Use fast I/O methods