

Input file

```
.i 7
.o 1
.type fr

# condition 1 describes the onset
1000000 1
0100000 1
0010000 1
0001000 1
0000100 1
0000010 1
0000001 1

# condition 2 describes the offset
11----- 0
1---1-- 0
1---1- 0
-11---- 0
-1-1--- 0
-1--1-- 0
--11--- 0
--1--1- 0
--1---1 0
---11-- 0
---1--1 0
---11- 0
---1-1 0
----11 0

.e
```

output file

(a)

```
.i 7
.o 1
.p 4
-00000- 1
-00-000 1
0-000-0 1
00-0-00 1
.e
```

Cube 1 means color 1 can color A and G,
Cube 2 means color 2 can color A and D,
Cube 3 means color 3 can color B and F,
Cube 4 means color 4 can color C and E,
An answer is AG, D, BF, CE. 4 colors are needed.

(b)

```
.i 7
.o 1
.p 4
00-0-00 1
0-0000- 1
000-0-0 1
-00-000 1
.e
```

Cube 1 means color 1 can color C and E,
Cube 2 means color 2 can color B and G,
Cube 3 means color 3 can color D and F,
Cube 4 means color 4 can color A and D,
An answer is CE, BG, DF, A. 4 colors are needed.