

Sample Input

```
3
6 GO F2 GO F2 GO F2
4 F3 F3 F3 F3
2 GO LEFT
1
2 GO F1
4
2 GO F2
7 LEFT GO GO GO F3 LEFT F4
5 GO F4 RIGHT F2 RIGHT
7 GO GO LEFT LEFT GO LEFT GO
```

Sample Output

```
5
Infinity
13
```