Packing

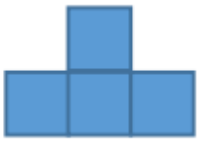
Packing is one of many problems that are tackled with constraint/logic programming. Given a 4×4 grid board and 4 tetrominoes of the following four types, is it possible to pack the board with the tetrominoes such that no tetrominoes overlap each other and the board is completely covered? Note that tetrominoes can be flipped and/or rotated before being put on the board.

Input Formats

An input file for ASP system contains the following four facts: `r(R)`, there are `R` number of R-tetrominoes; `s(S)`, there are `S` number of S-tetrominoes; `t(T)`, there are `T` number of T-tetrominoes; and `l(L)`, there are `L` number of L-tetrominoes, where $0 \leq R, S, T, L \leq 4$ and $R + S + T + L = 4$.

R-tetromino

S-tetromino



T-tetromino

L-tetromino

Output format

The output should be 'yes.' if the given number of tetrominoes can be packed into the 4×4 board, and 'no.' otherwise.

Samples

LP Input	Output

`r(2).`
`s(2).`
`l(0).`
`t(0).`
	`yes.`

`r(1).`
`s(0).`
`l(1).`
`t(2).`
	`yes.`

`r(0).`
`s(0).`
`l(2).`
`t(2).`
	`no.`