
Stairwell

X89209_en

An open stairwell has four floors and one switch per floor to control the light. If all switches are off, the light is off; any single change in the position of any switch changes the state of the light. Design a circuit that controls the light based on the position of the four switches.

Specification

```
module stairwell( switches , light );  
    input [3:0] switches ;  
    output light ;
```

Input

- *switches* represents the state of the four switches (1 when "on" and 0 when "off").

Output

- *light* controls the state of the light (1 when "on" and 0 when "off").

Problem information

Author: Jordi Cortadella

Generation: 2026-02-03T12:19:34.079Z

© *Jutge.org*, 2006–2026.

<https://jutge.org>