

## 1 Predicates

To make comparison with the `c` implementation easier, the names for predicates have been shared.

Worksheet name	our name	Type
Fenster	window	binary
Heizung	heating	binary
Haustüre	door	binary
Licht	light	binary
Kaffeemaschine	coffemachine	binary
Musik	music	binary
Fenstersensor	window	binary
Temperatursensor	temperatureSensor	binary <sup>1</sup>
Laserschranke	omitted <sup>2</sup>	
Geofencing	geo	ternary
Uhrzeit	sun	binary

## 2 Formulae

- Heating off, when window open:  
 $\mathcal{G}.f \Rightarrow \neg h$
- Heating on, when window closed, person in house, cold:  
 $\mathcal{G}.\neg f \wedge in(geo) \wedge \neg ts \Rightarrow h$
- Light on, if night and, door open or person near house or person in house:  
 $\mathcal{G}.\neg sun \wedge (in(geo) \vee near(geo) \Rightarrow l)$

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<sup>1</sup>wärmer/kälter were ignored as it was unclear how they should be interpreted. If there are only two absolute temperatures hot and cold warmer and colder make no sense.

<sup>2</sup>since the house appears to only have one room this was subsumed in the geofencing parameter