

# Jeu dont vous êtes le héros

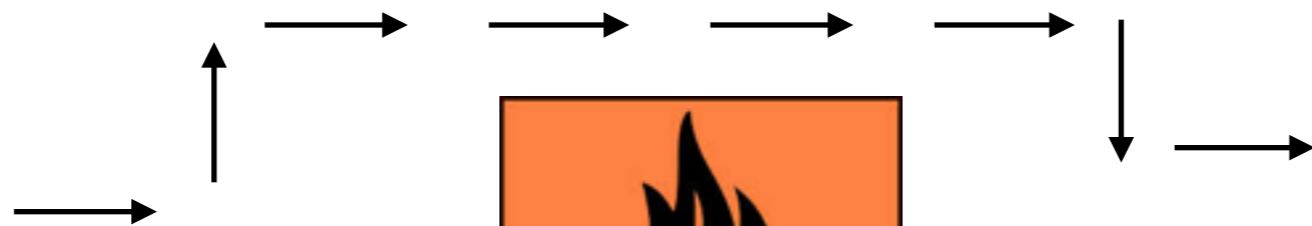
Pascal EVRARD, Thi-lan LUU & Yann SECQ

# Initiation à l'algorithmique

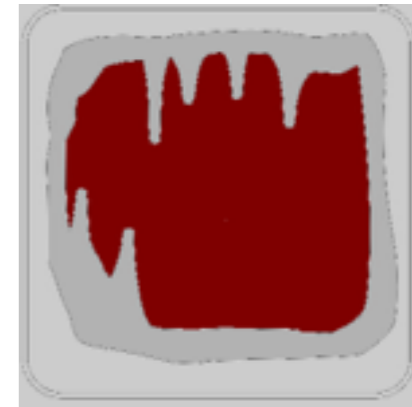
- Objectif: démystifier l'ordinateur en initiant de jeunes enfants à l'algorithmique
- Contexte: création d'un jeu de société
- Notions mobilisées: représentation dans l'espace (positionnement relatif/absolu), instruction, séquence d'instruction, exécution, validité, alternative (voire répétition et fonction) et créativité :)
- Expérience réalisée dans le cadre d'un TAP à V.A.



le héros

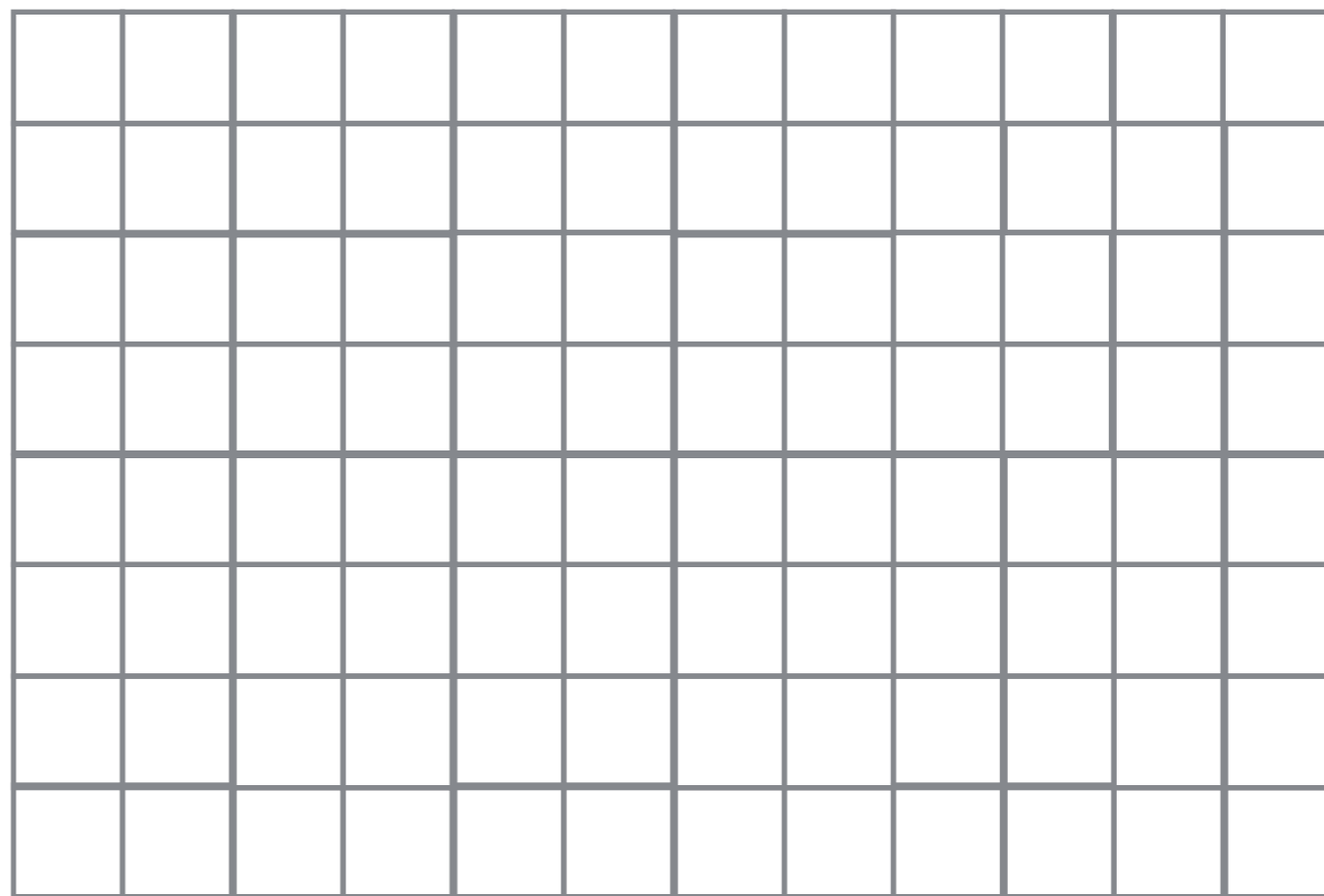
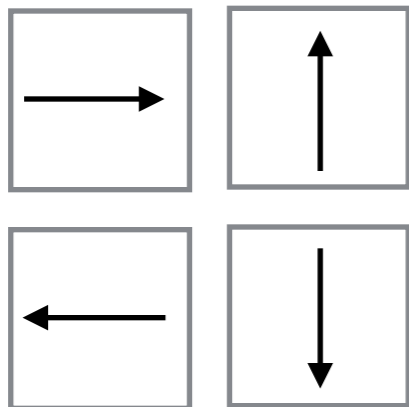


ce qu'il craint



son abri

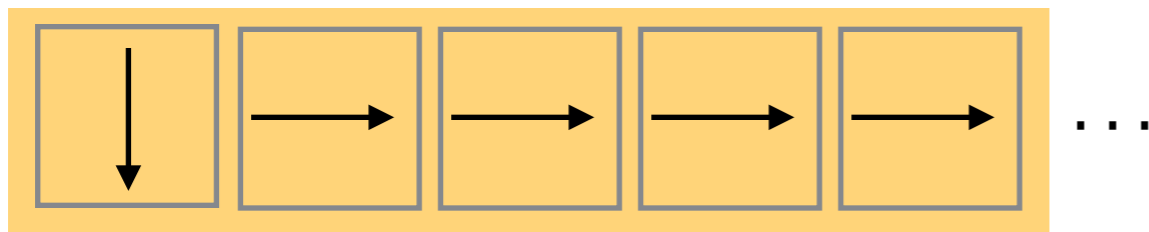
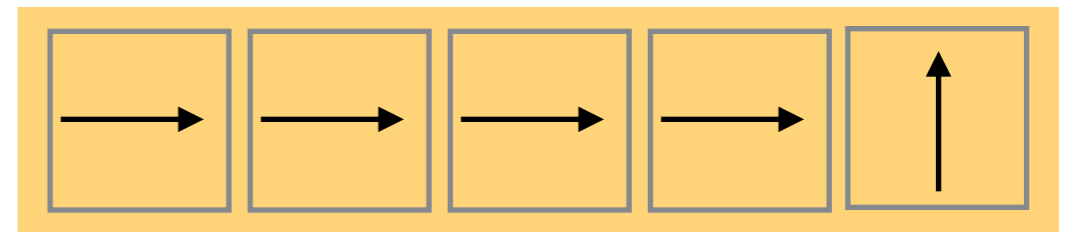
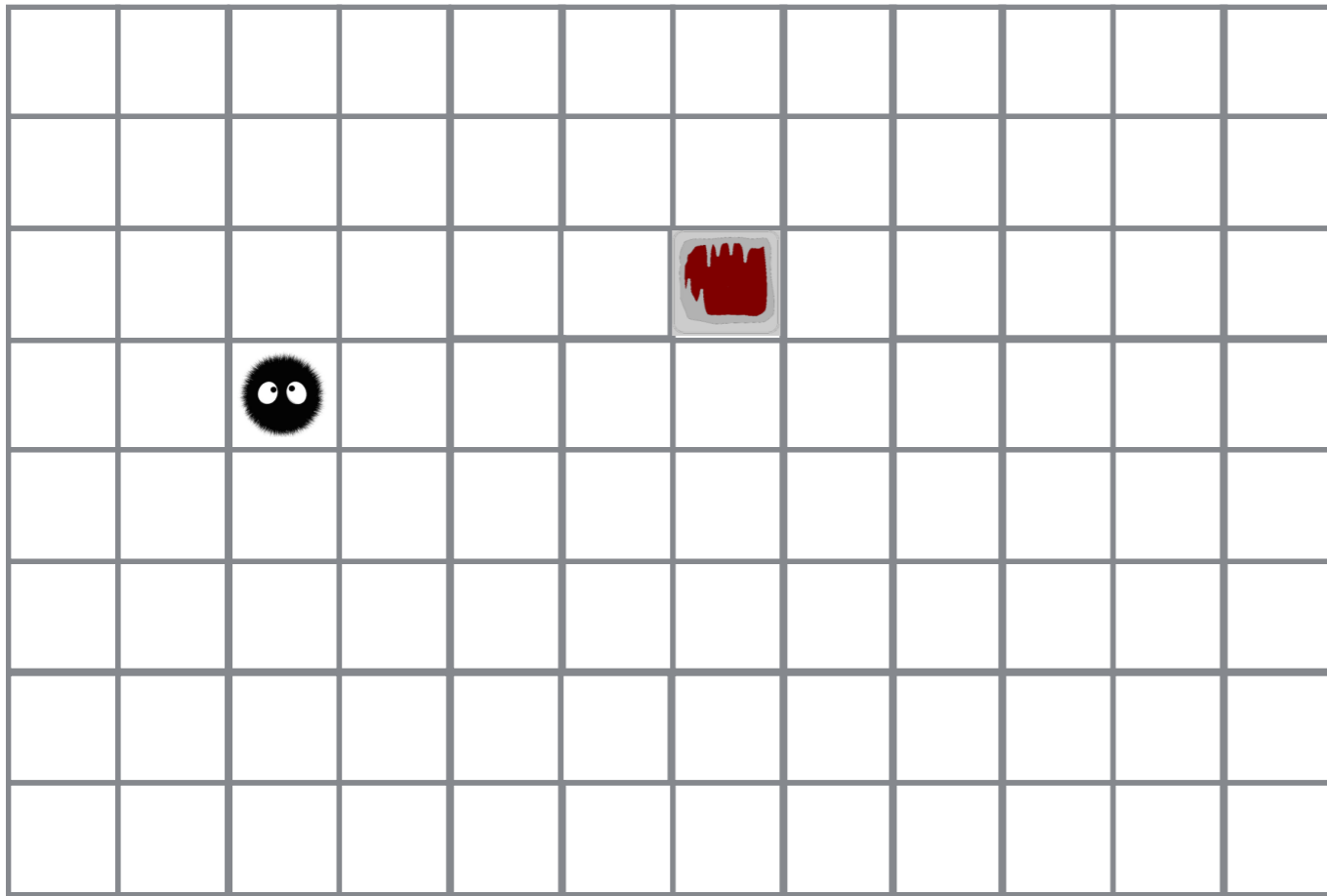
### Actions



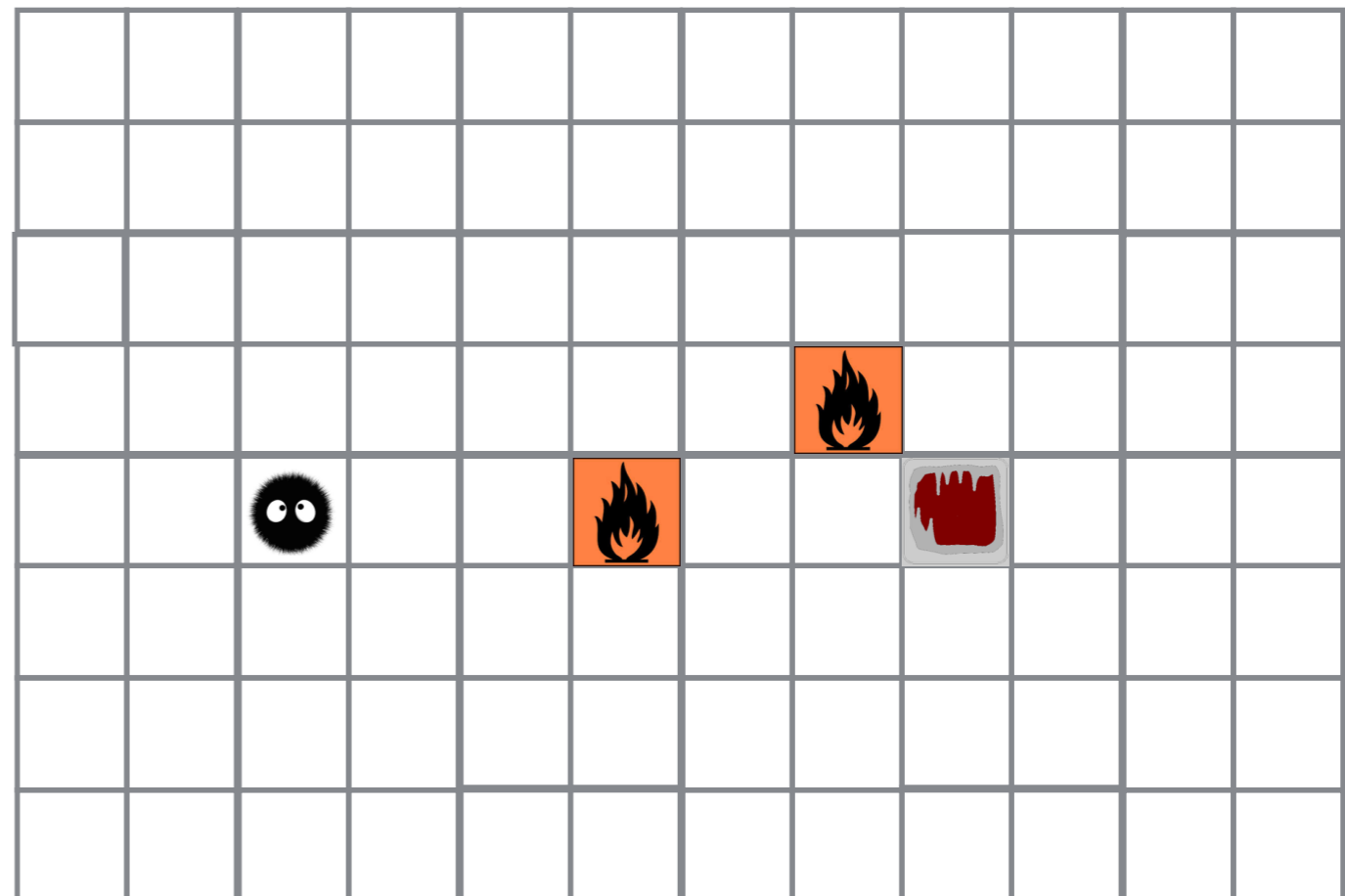
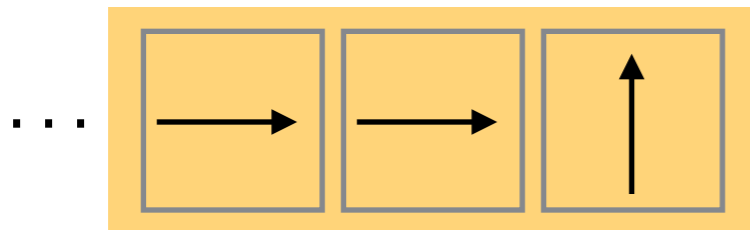
le plateau de jeu

# Niv. 1: séquences simples

- sans obstacle
- avec obstacles
- avec bonus

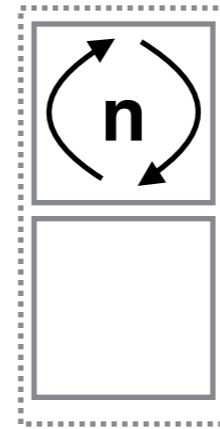


...

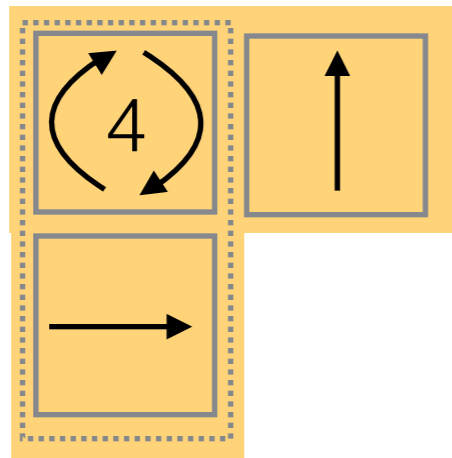


## Niv. 2: répétition

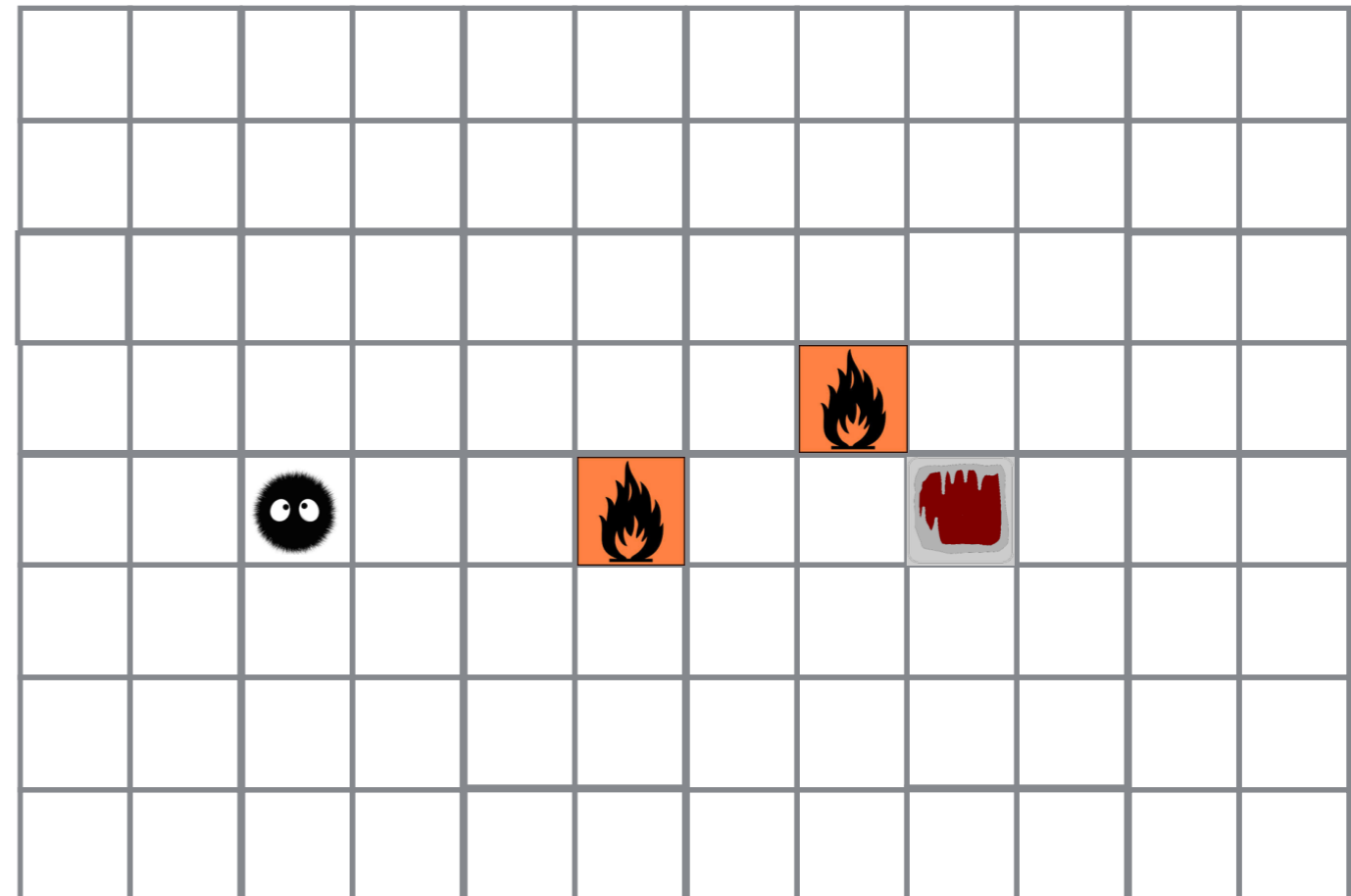
- identifier les redondances
- notion de répétition

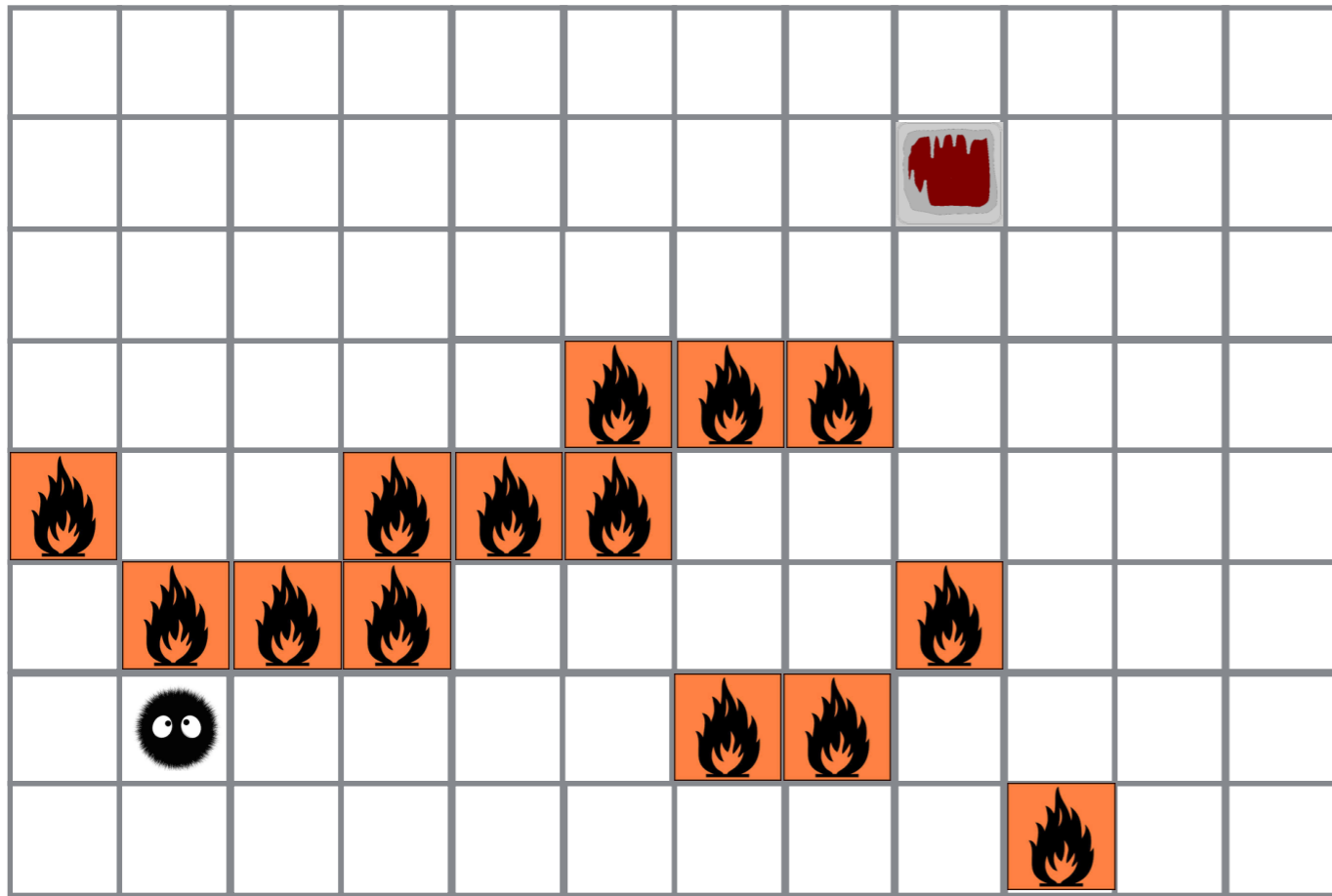


*répéter  $n$  fois le bloc d'actions situé en dessous*



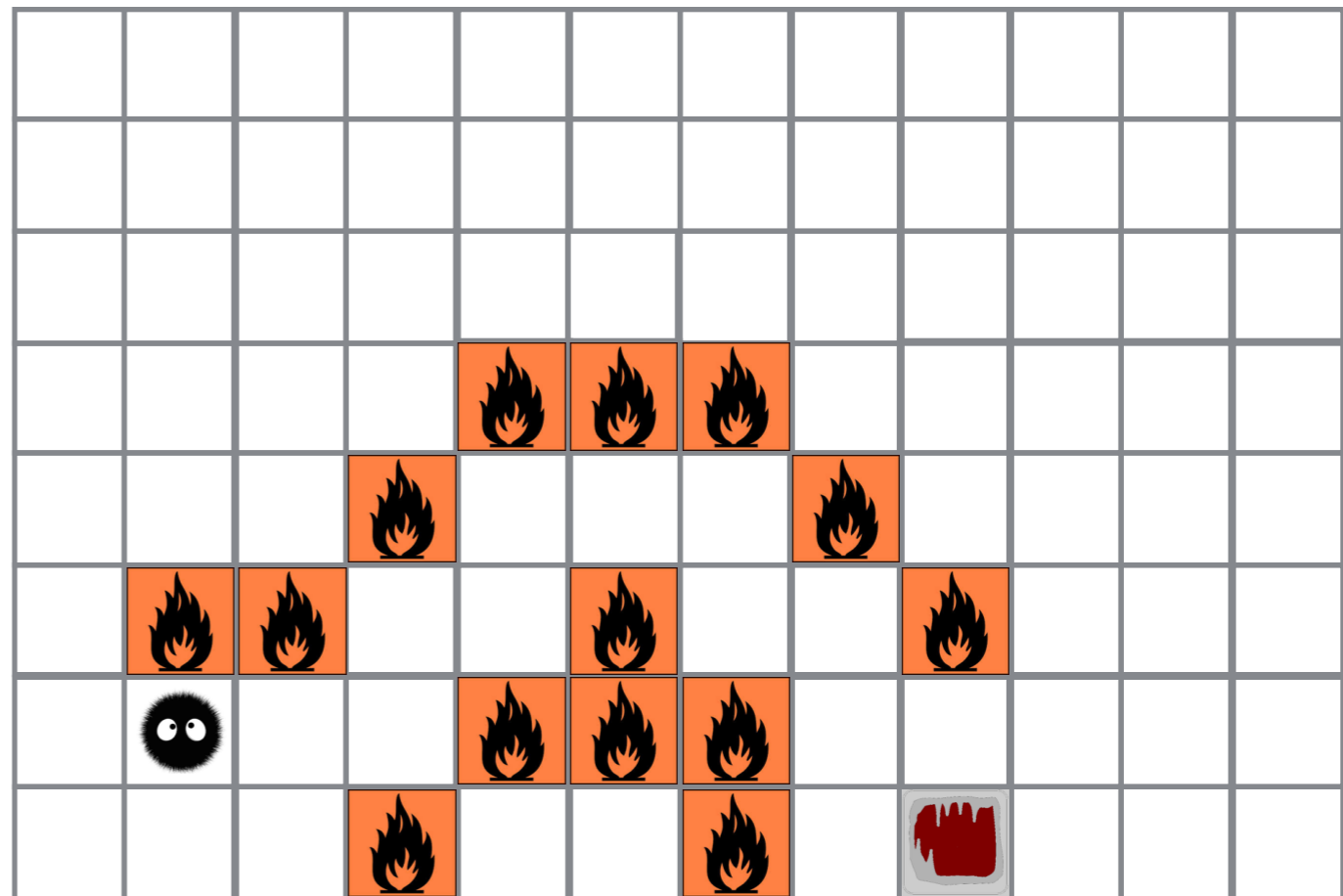
Propositions ?

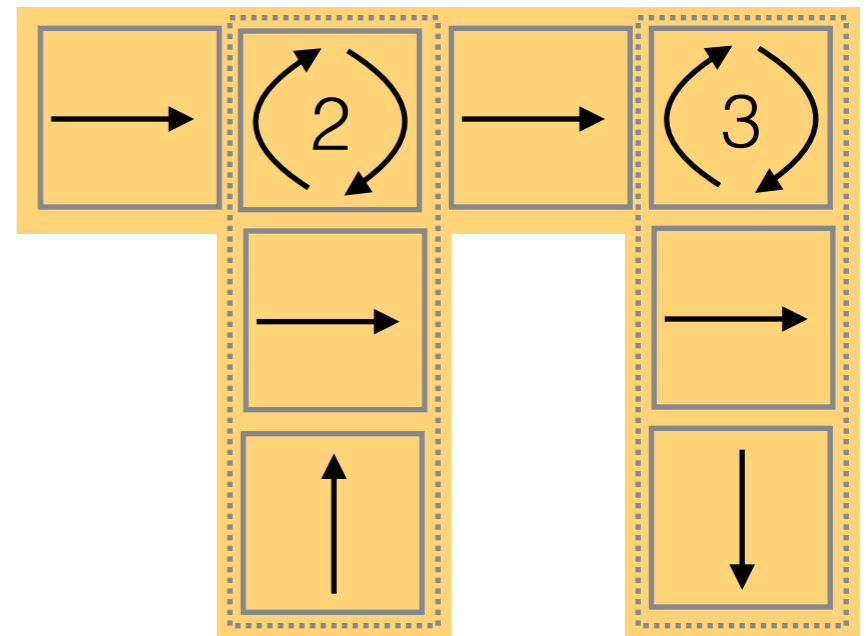
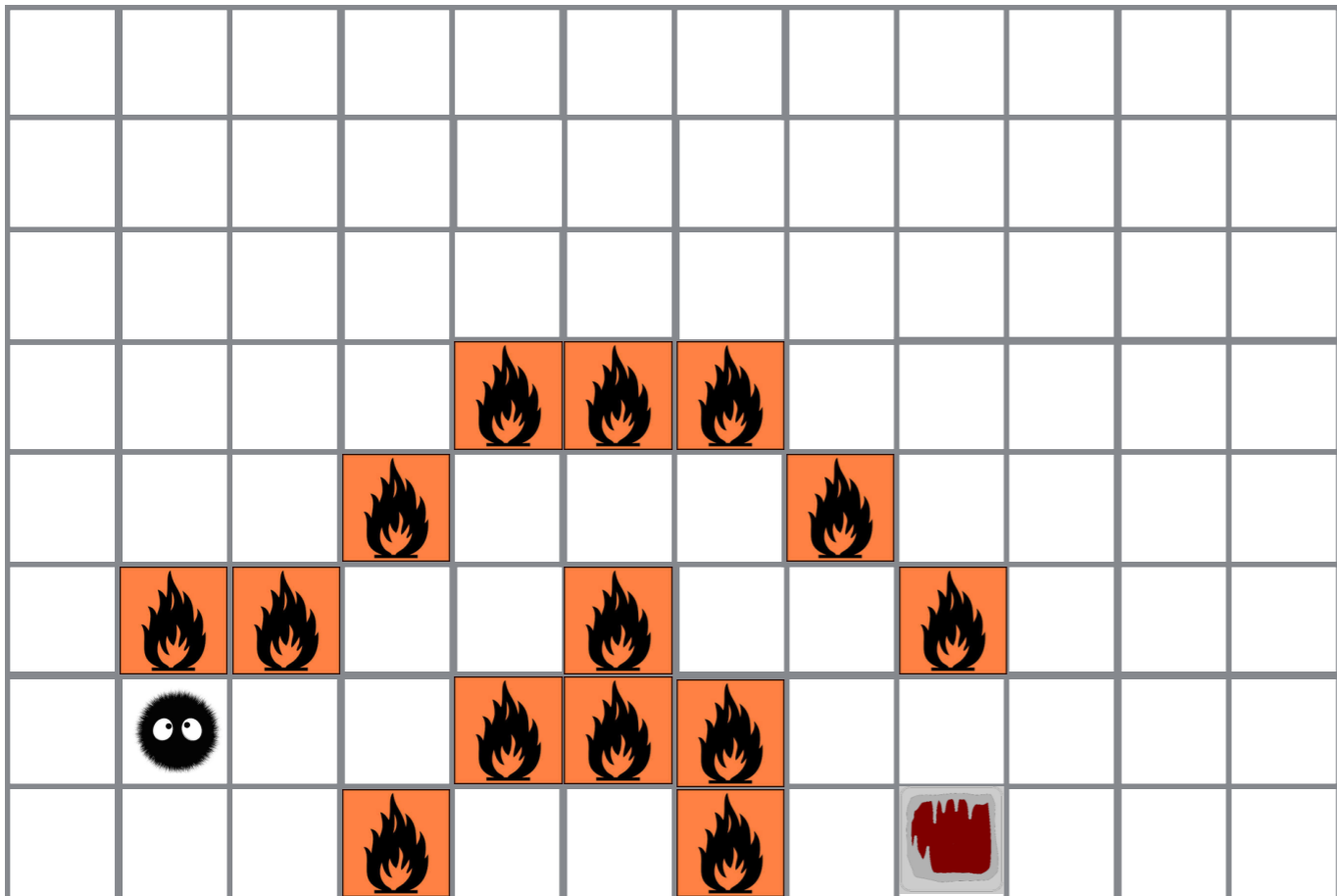
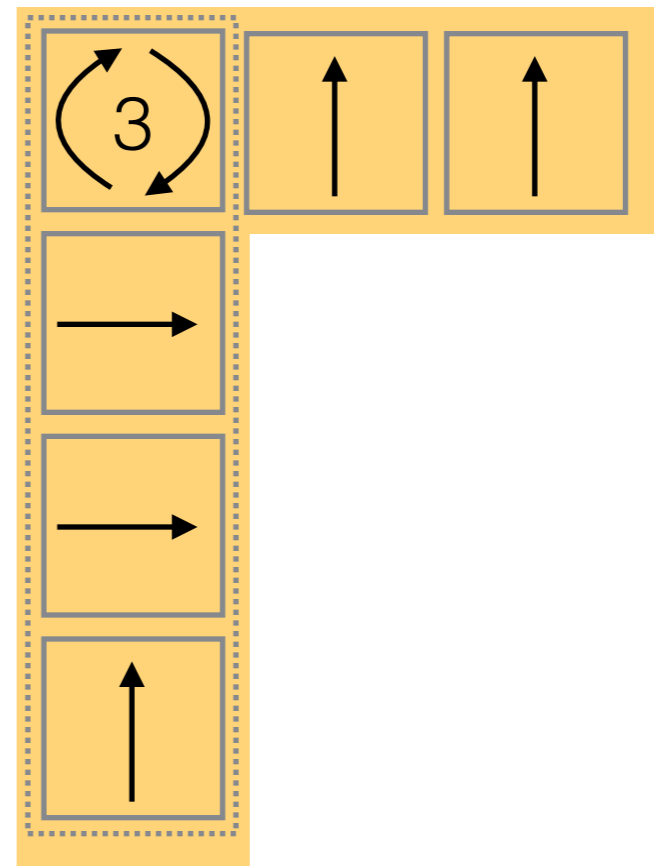
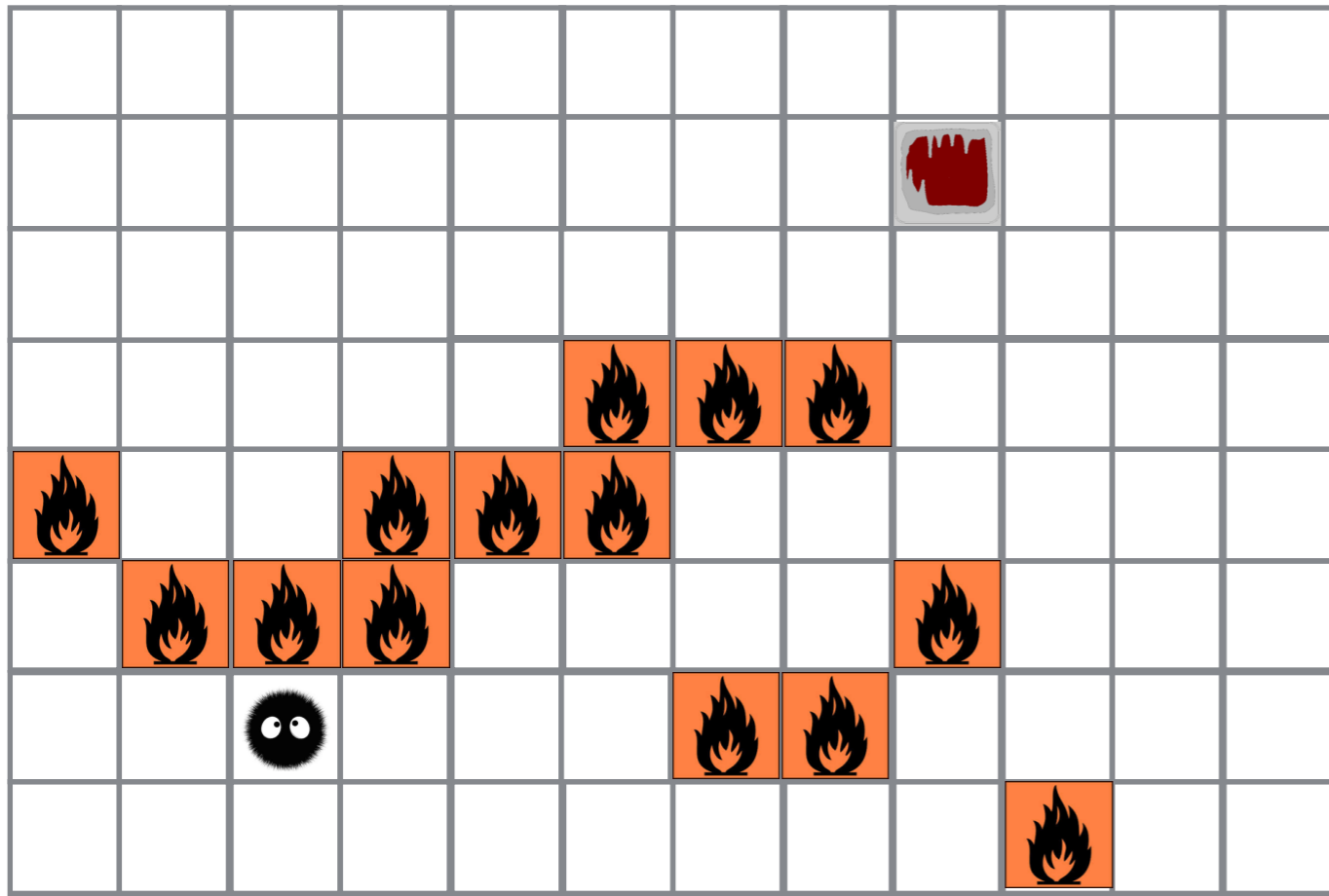




Propositions ?

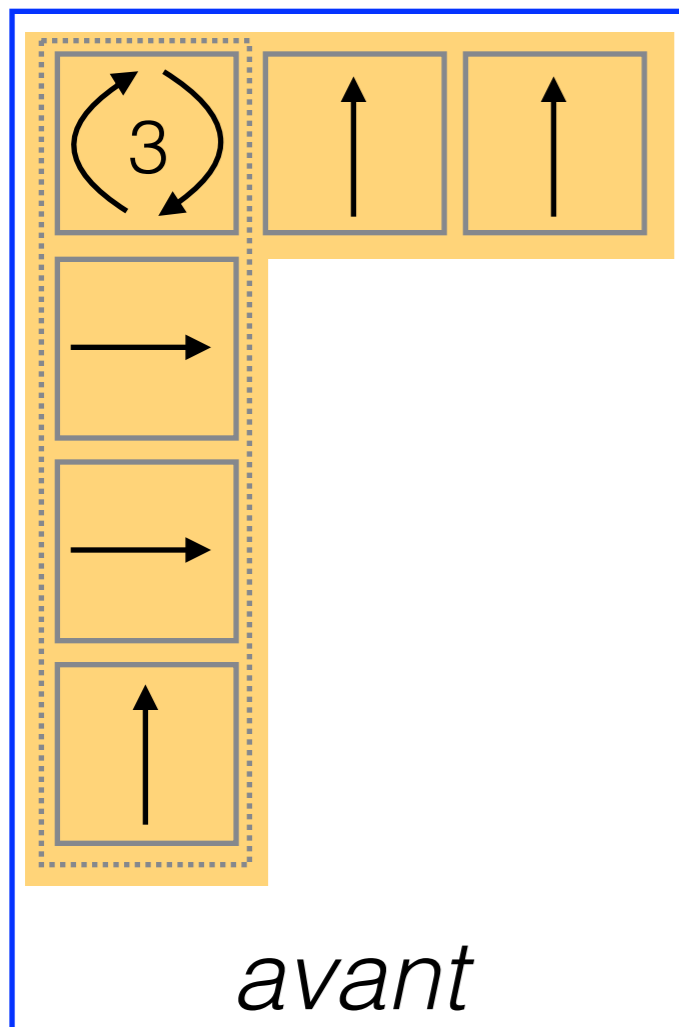
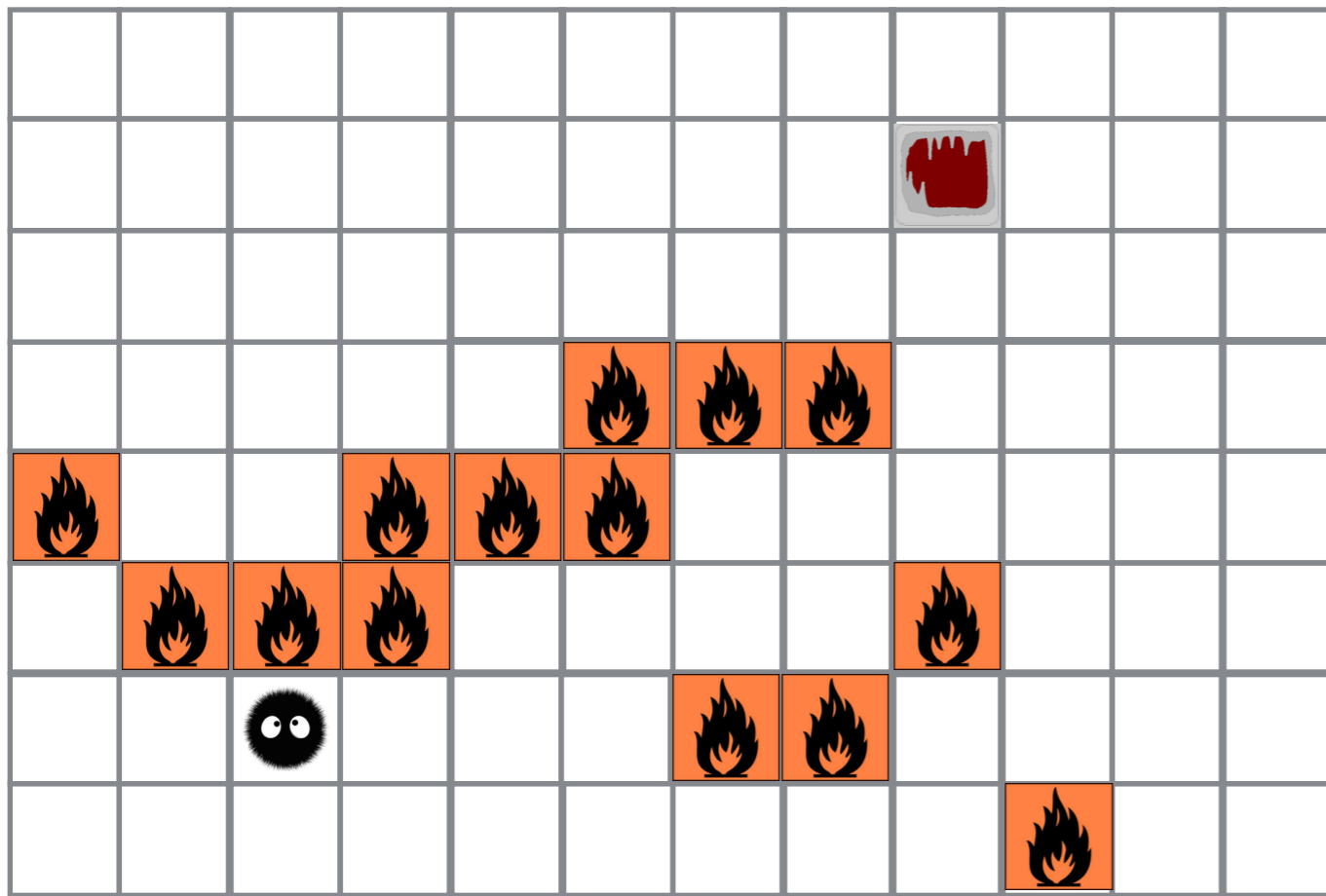
Propositions ?



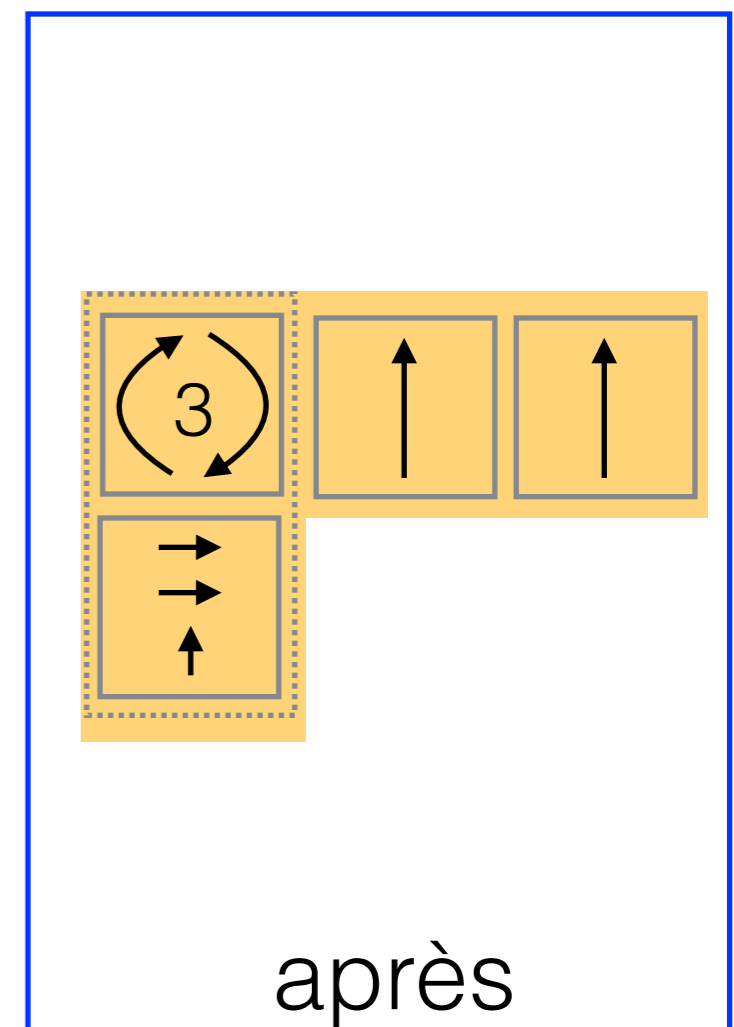
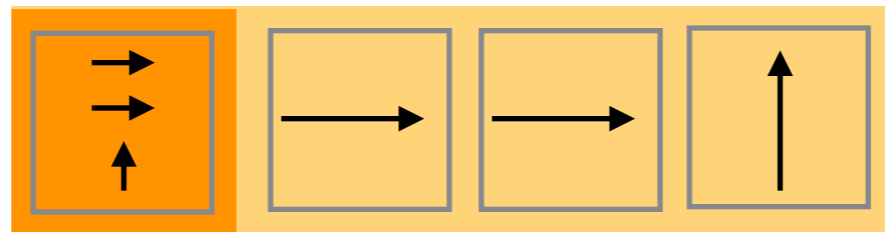
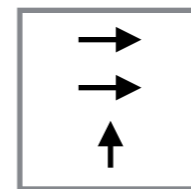


## Niv. 3: fonction

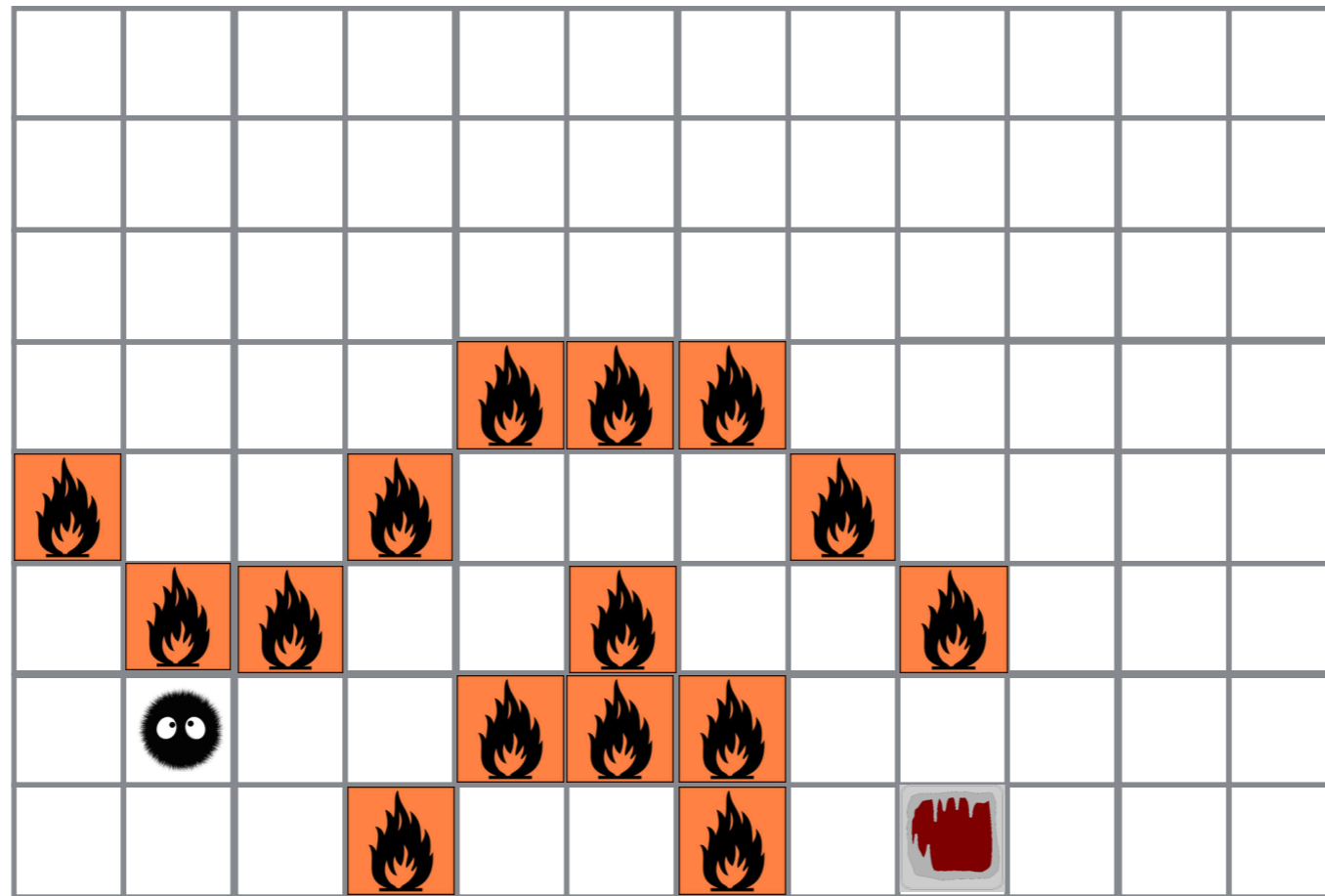
- comment réutiliser un ensemble d'actions ?
- en créant ses propres actions !
- notion de fonction



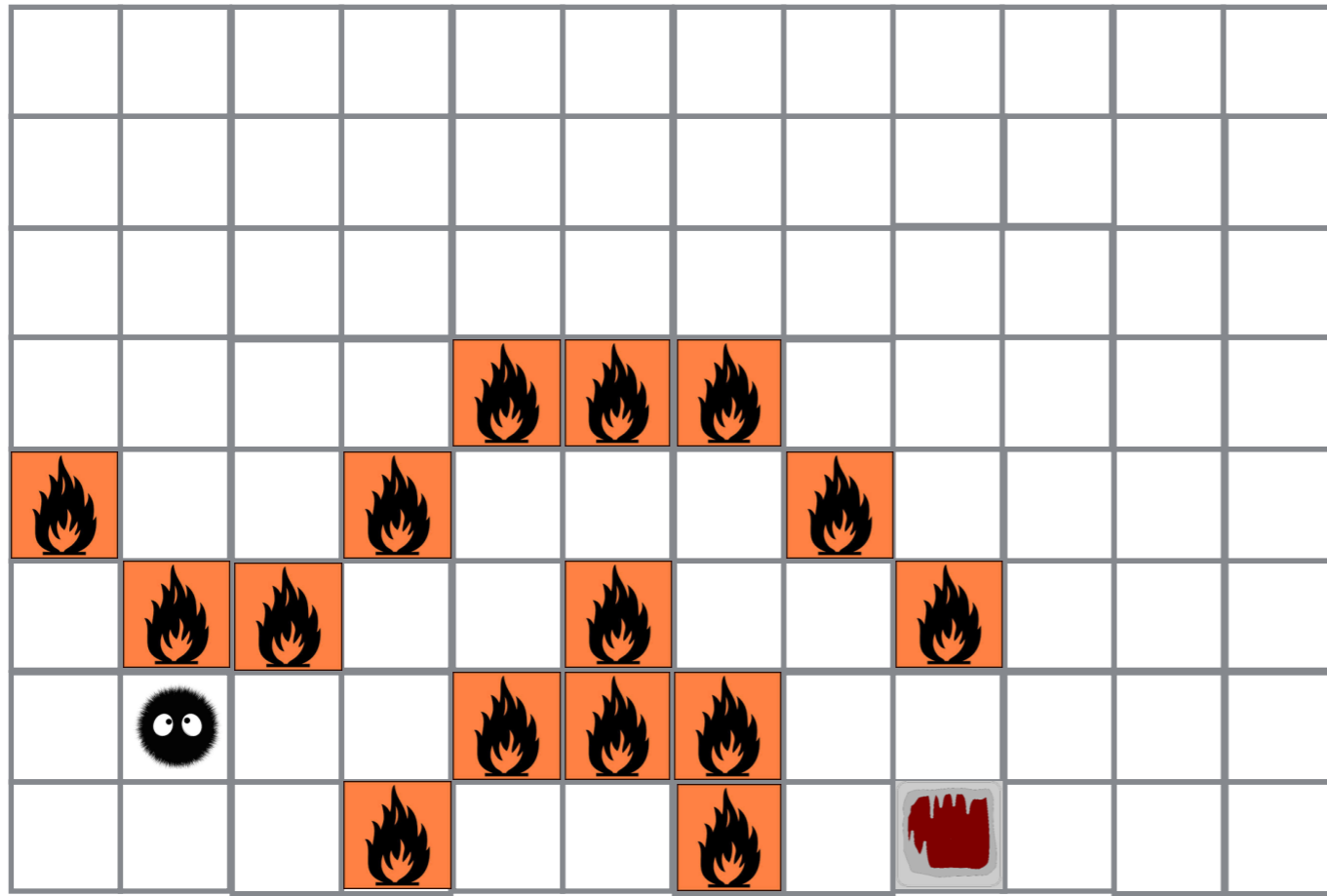
Créons la carte:



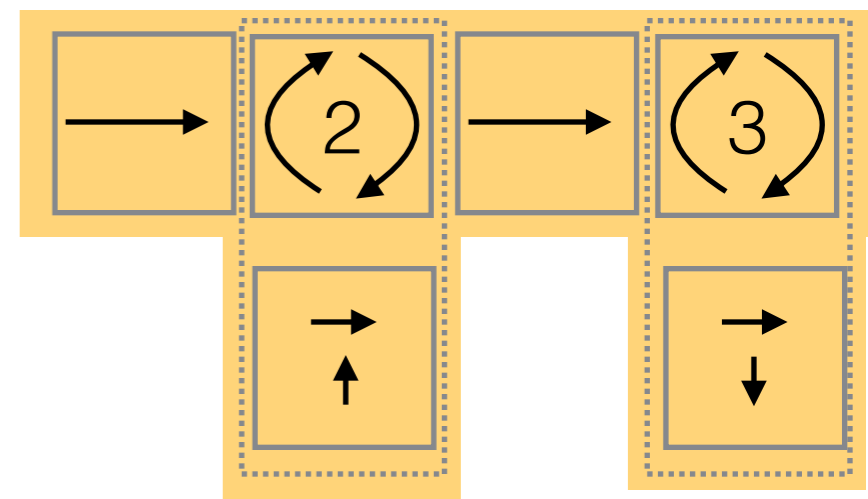
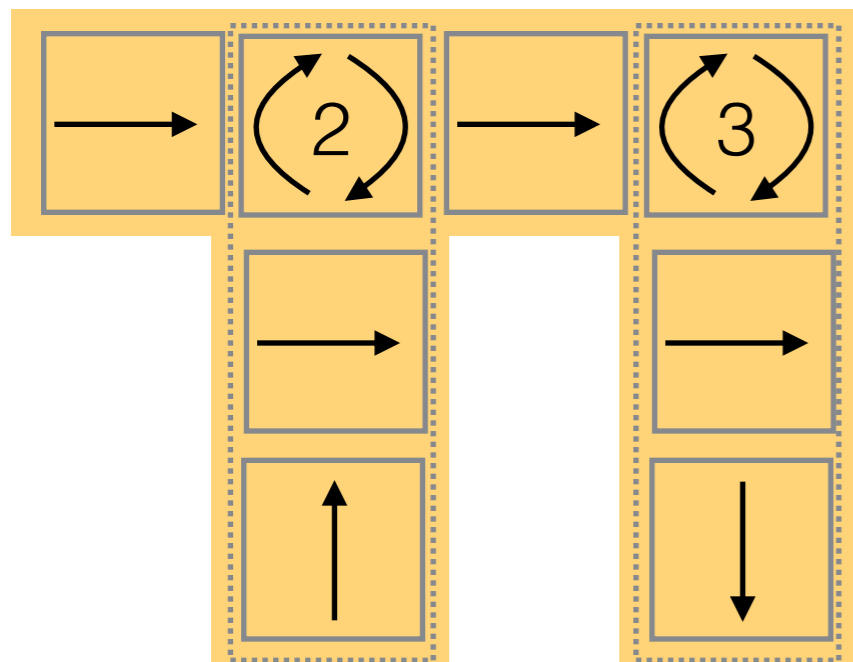
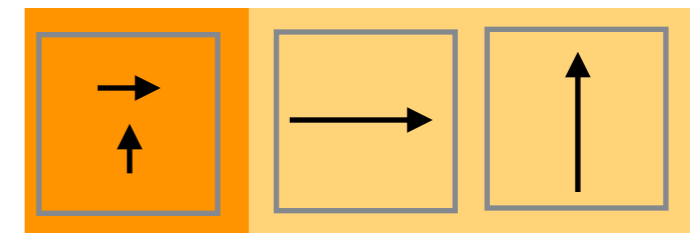
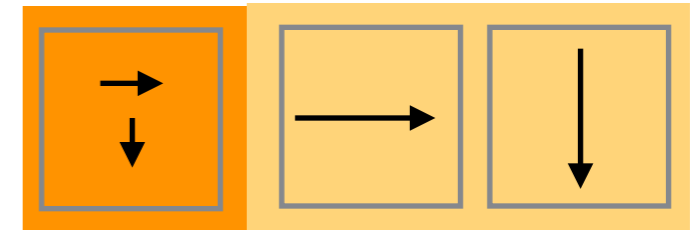




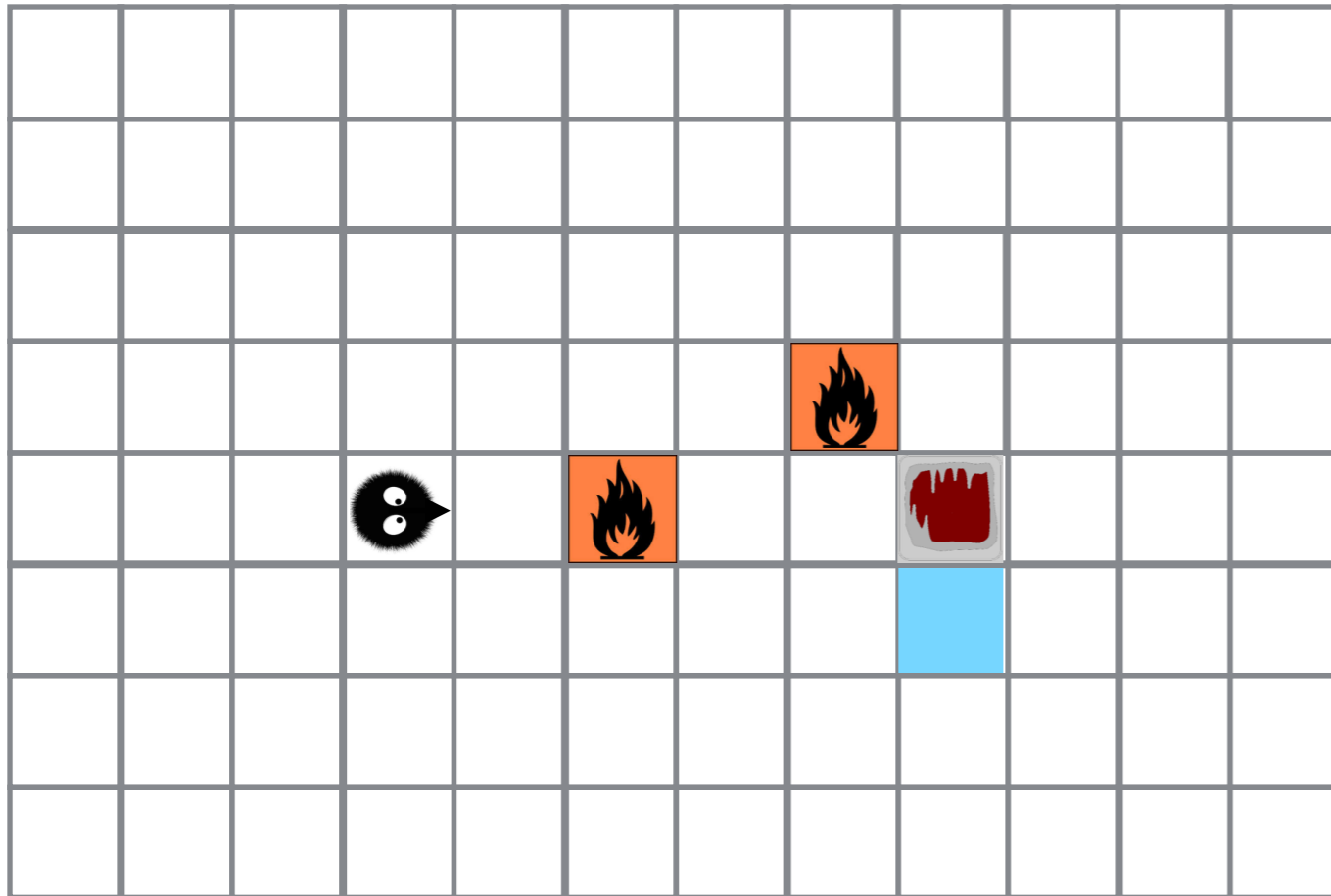
Propositions ?



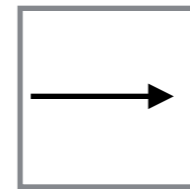
# Nouvelles actions



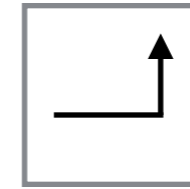
## Niv. 4: orientation relative



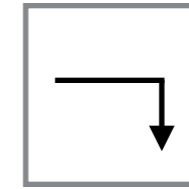
- le héros avance dans la direction pointée par son nez



*avancer*



*tourner  
à gauche*



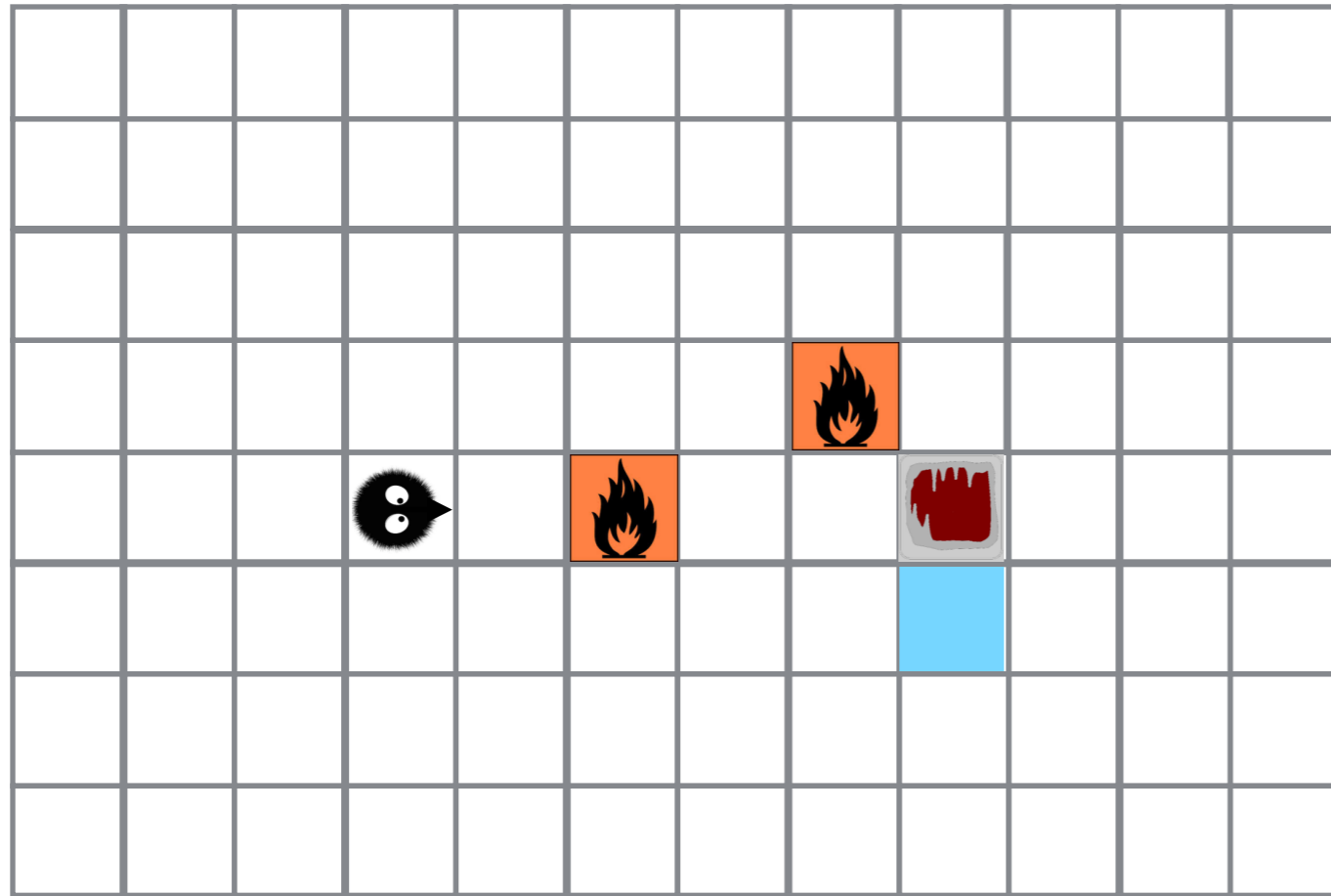
*tourner  
à droite*



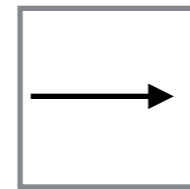
*allumer*

Propositions ?

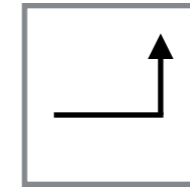
## Niv. 4: orientation relative



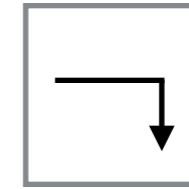
- le héros avance dans la direction pointée par son nez



*avancer*



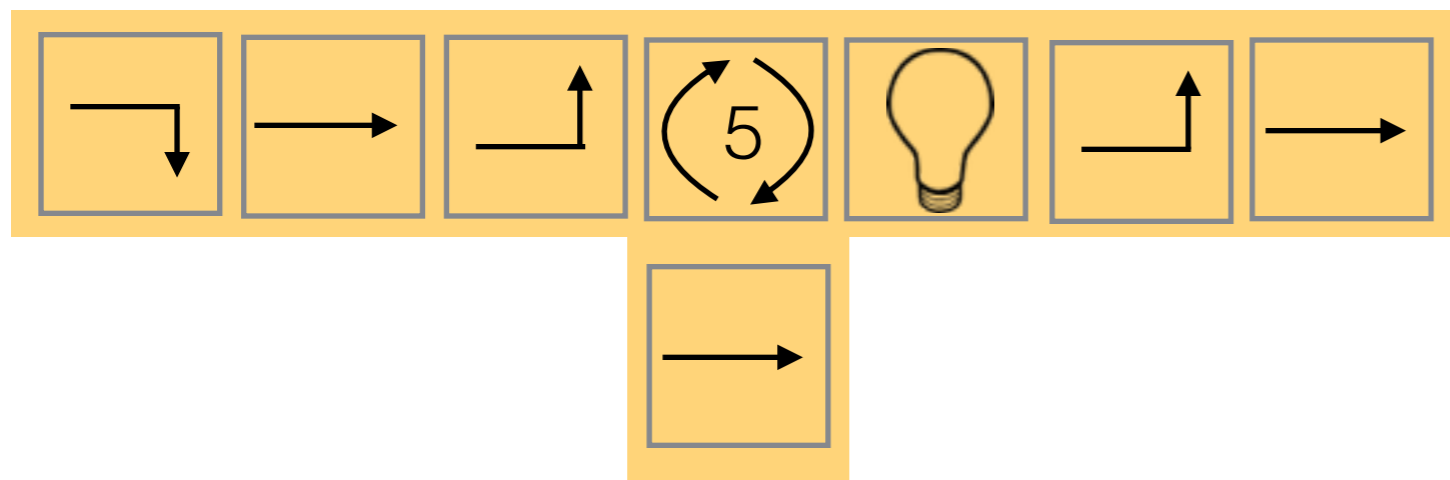
*tourner  
à gauche*

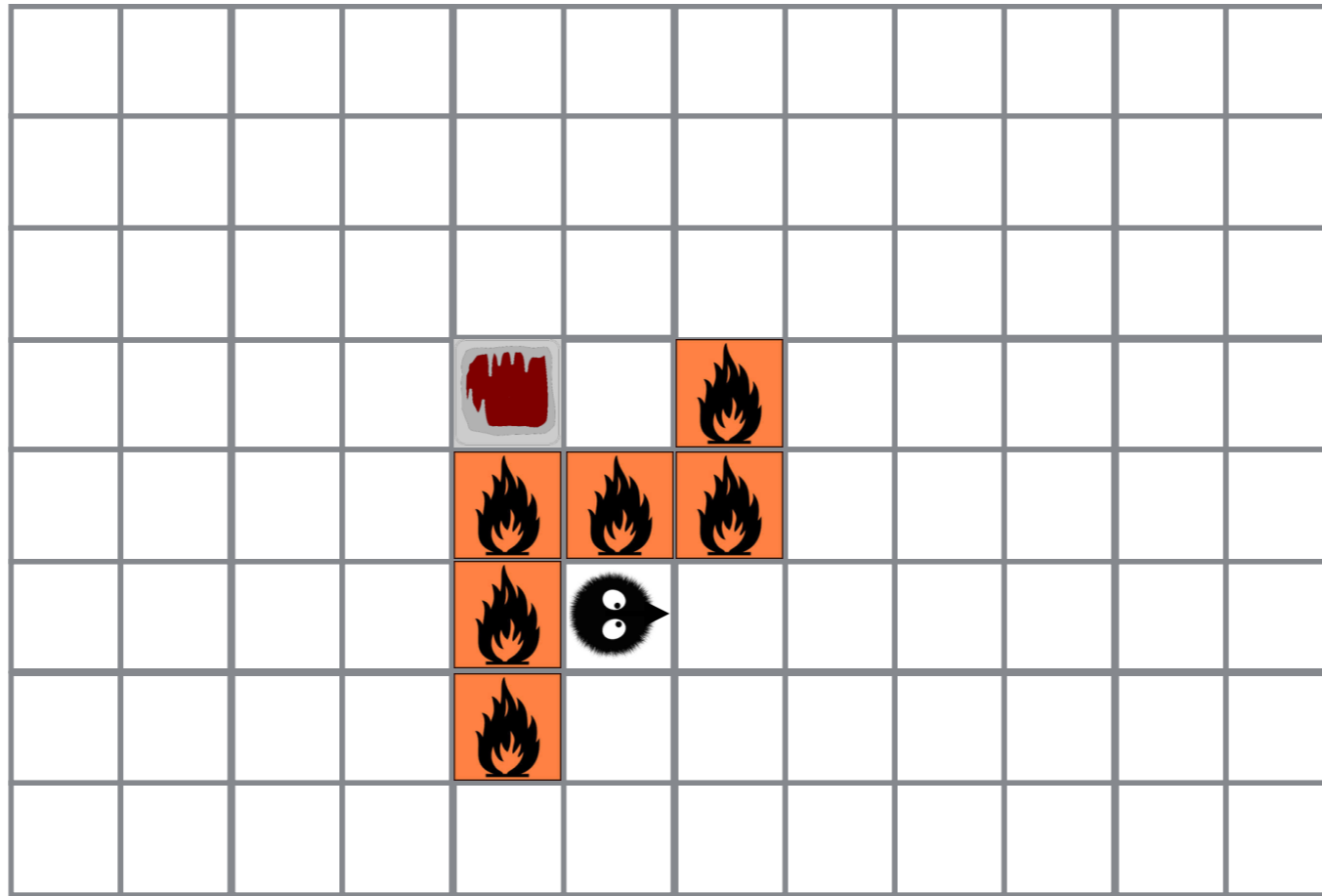


*tourner  
à droite*

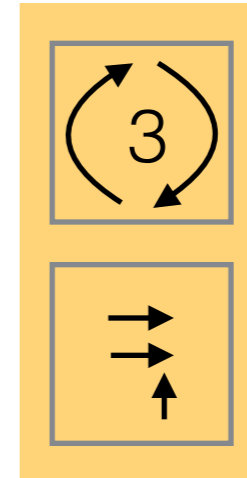
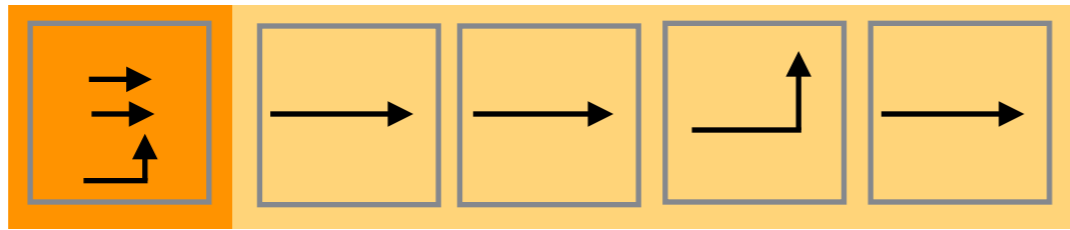
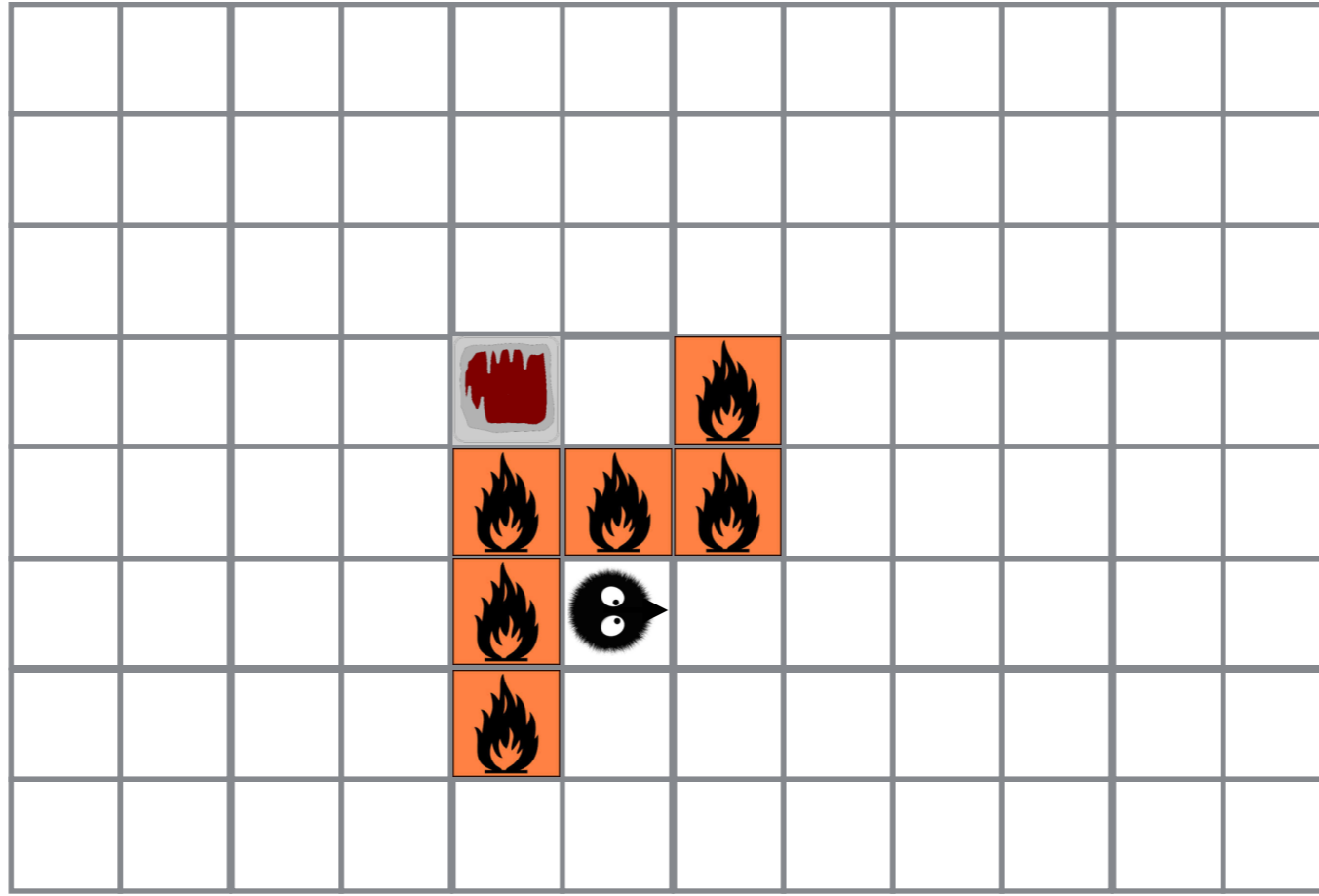


*allumer*





Propositions ?



# Jeu ... mais sérieux :) )

- Introduit beaucoup des notions fondamentales de l'algorithmique:
  - instruction (les actions) et séquence d'instruction,
  - évaluation (exécution) et bug,
  - structure de contrôle: répétition et fonction.
- Possibilité de jouer en simultané (coopératif et/ou compétitif) et d'introduire des métriques comme système de gain