## *Web-based news-filtering agent:*

goal: find all unread stories that contain the specified keywords (periodic search)

performance measure: whether news site entirely explored

environment: computer (agent), network, Internet (incl. the news site server itself), user

actions:
- send a download request to retrieve a page
- search the text of a received page
- build a ranked list of stories (links), display
- handle error messages etc.
- query the user (keywords, stories read)

percepts:
- downloaded pages
- messages from the agent's computer , the news site's server, others
- user keywords
- unread stories

## Environment characteristics:

observable: *fully,* if *assuming* no hidden / inaccessible pg
*partially,* otherwise

deterministic: *not* – unexpected events e.g., dead links, communication may break down / time out

episodic: *no* – sequential search, periodic but the agent must remember all stories read before

dynamic: *yes* – news site may change *during* search (pages/stories added, edited, removed, etc.)

discrete: *yes* – digital data and communication

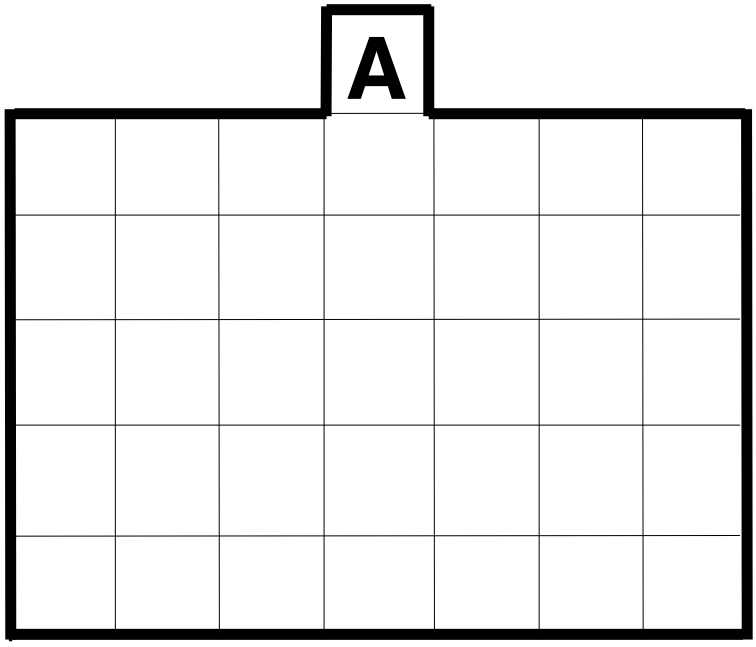
suitable type of agent: *goal-based agent*
→ the task is essentially a search in a state space consisting of web pages

characteristic of interest: *contingency* problem

agent must *interleave* search and execution – actions can only be decided after downloading a page and searching its content.

## *Simple reflex agent in a grid world:*

condition-action rules: *IF percept = … THEN action = …*

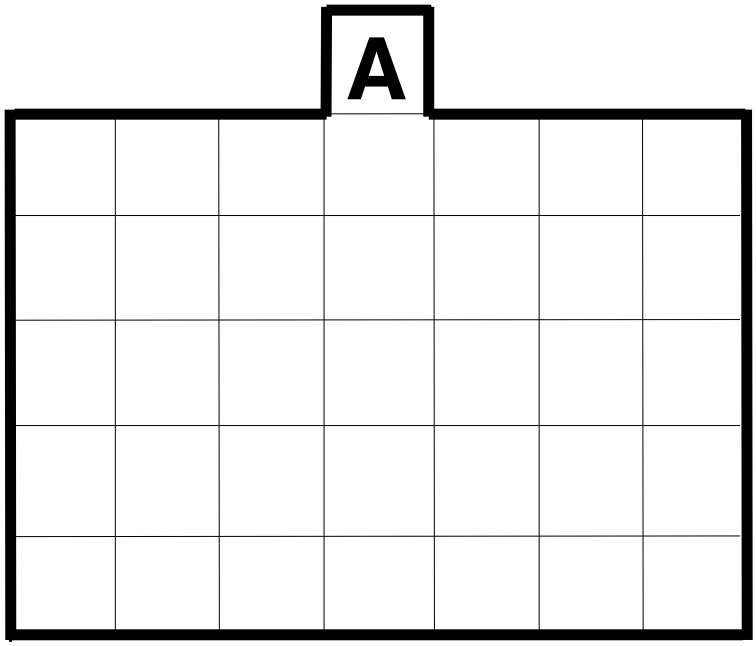



## *No memory, front sensor:*

IF wall ahead THEN turn left
IF no wall ahead THEN move forward

- agent initially facing A: trivial success
- any other initial config: agent keeps following the wall anti-clockwise and never detects the alcove A

→ not working (too limited)

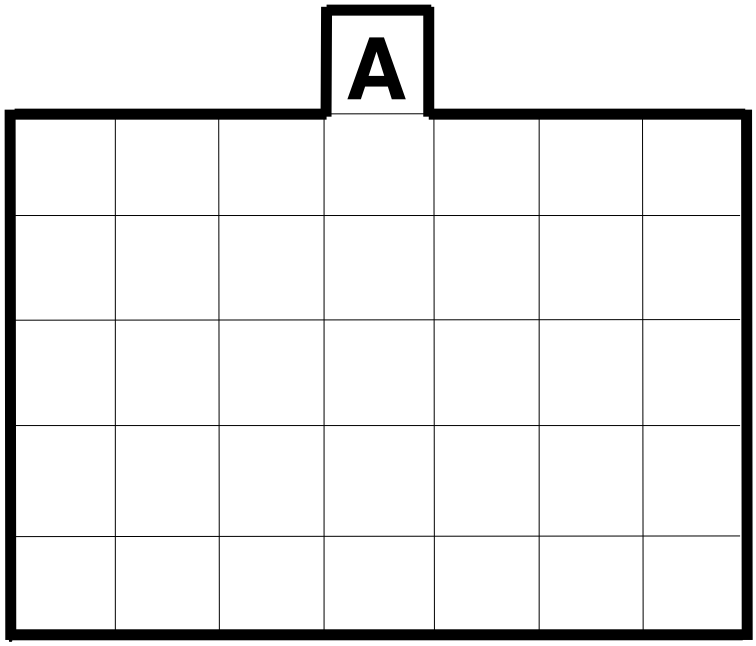



## *No memory, front and right sensors*

IF wall ahead AND right wall THEN turn left
IF wall ahead AND no right wall THEN turn left
IF no wall ahead AND right wall THEN move forward
IF no wall ahead AND no right wall THEN turn right

- agent initially has a wall ahead or on the right: success
- agent initially not close to any wall: keeps turning right

→ not working (information still too limited)




## *1-state memory, front and right sensors*

sensor: current state – wall ahead, right wall
memory: previous state – wall ahead before, right wall before

IF wall ahead THEN turn left
IF no wall ahead AND *// alcove detected*
( no right wall AND right wall before )
THEN turn right
IF no wall ahead AND not ( … ) *// no alcove*
THEN move forward

- agent reaches the alcove in all cases → success!