

"Hally and the Barry's"

Multi Agent Systems,

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1 CREATING IMPROVED 2APL AGENTS

For this exercise you will be creating two intelligent 2APL agents, Hally and Barry. These agents can be based on Harry and Sally in the 2APL examples package. We have added several requirements to both agents that can be implemented in any way you wish.

1.1 HALLY

Hally is the red agent that provides information to Barry. She is constantly be looking around in order to find new bombs. She should also be able to:

- avoid static obstacles, such as walls placed in the environment.
- avoid other agents when they walk into each other.
- recognise if multiple agents (Barry1, Barry2, etc..) are cleaning up bombs and supply information to the nearest available¹ agent.

1.2 BARRY

Barry is the blue agent that disposes of bombs. He is looking for bins, cleaning the block world with the information supplied by Sally and keeps score of the number of bombs he has cleaned so far. He should also be able to:

- avoid static obstacles, such as walls placed in the environment.

¹available is: not carrying a bomb and not on its way to pick up a bomb

- avoid other agents when they walk into each other.
- recognise if multiple bins are available, and bring bombs to the nearest bin.

Try to make Hally and the Barry's as efficient as possible while making sure all the requirements are met. Please create a .zip file with all .2APL and .MAS files needed to run the program. Also include a separate file with comments on your code.

1.3 BONUS

Here are some more properties of Hally and Barry that might improve their bomb-cleaning abilities. If you are done, or stuck on one of the other requirements, try to implement these for a higher grade:

- let Hally and Barry also check for bins/bombs while moving (every step).
- let Hally communicate in a smarter way. Currently Sally only informs Harry about a single bomb when perceiving, improve this so that Hally can inform Barry of multiple bombs at once.
- don't let Hally communicate bombs twice (also think about what happens if a bomb is picked up and then a new bomb is placed on that location; sally should communicate that bomb's location eventually!).

1.4 TIPS

1. In 2APL, under 'Debug', disable 'Log' and 'State Tracer' to improve performance.
2. Please check out <http://www.learnprolognow.com> for tutorials on Prolog.