BRIEF ARTICLE

THE AUTHOR

1. PRELIMINARIES

Algorithms of search-and-escape involve mobile agents (also called Robots) searching in geometric domains, such as a closed disk, or convex polygon. By working together and communicating with one another, these mobile agents search the domain to find an exit hidden on the perimeter. Many different problems exist for this topic, such as evacuating all agents, or only evacuating a specific subset of these agents.

1.1. **Model.** In our problem, we observe the Priority model of algorithms. In this model, a subset of one or more agents is defined as a Priority (or Queen) and the goal of the algorithm is to evacuate a certain number of these Priority Agents. These algorithms also include Helper agents, that simply assist in searching the circle for the exit. The Helper agents are not typically required to evacuate. Once an exit is found, whether by a Helper or a Priority,the agent may use Wireless communication to immediately broadcast the exit's location to all other agents. Upon receiving this broadcasted location, any remaining Priority agents that need to evacuate travel immediately to the exit and the algorithm terminates.

1.2. **Previous Work.**

1.3. **Our Results.**

2. ALGORITHM 1

Algorithm 1 An algorithm

1: **procedure** EUCLID(a, b)   ▷ The g.c.d. of a and b
2:     $r \leftarrow a \bmod b$
3:     **while** $r \neq 0$ **do**   ▷ We have the answer if r is 0
4:         $a \leftarrow b$
5:         $b \leftarrow r$
6:         $r \leftarrow a \bmod b$
7:     **return** b ▷ The g.c.d. is b