

ALGOS_1

LEM-IN

What is Lem-in:

- It is a path finding algorithm. It is given rooms, ants and links between rooms.
- You then have to make the ants walk from one room to the next, until all ants reach the end room.
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How to run Lem-in (*if applicable*):

- `./executable` < mapname.map`

Important to note on input:

- First item to read in must be an int, for that is the amount of ants
- Find `##start` - save the start point which is directly after start
- Find `##end` - save the end point which is directly after end
- Everything with 3 numbers separated by spaces are room numbers and co-ordinates.
- CO-ORDINATES are only important if you're doing graphical interface/display as well
- Everything with 2 numbers separated by ``-`` are rooms linked together.

Your output:

- Ant 'name' which MUST be the ant number preceded by an 'L'
- Output "ant name - room number"
- One move/round = one line

First steps:

- Read from stdout
- Choose best way to save all information (arrays, structs or lists - I chose lists)
- Save number of ants
- Save start room (first number of 3 numbers given in eg: 0 1 0, start room = 0. Eg 3 1 0, start room = 3)
- Save end room
- Save linked rooms
- Find a path (eg 0-2, 2-3, 3-1. Thus, path is = 0, 2, 3, 1)

Next steps:

- Once you have ants moving from one room to another, find a good algorithm and implement it.

Notes:

- There may be only one ant in a room at a time
- Multiple ants can be moved at the same time

- Do error checking for if there is no path to end room
- No need to error check input on command line (because of '<' method of reading file)
- <http://www.zentut.com/c-tutorial/c-linked-list/>