Memory Vacuum using search Version 1.2

Exercise Problem:

Difference from Last

* + Search Functionality is now active although faulty
    - Beam search is executed to find quickest route to where vacuum thinks valuable tile will be located
    - Will randomly stop at a point essentially being a barrier for other agents
    - Will go through other agents if it is following a map path
    - Will sometimes “teleport” for no apparent reason
  + Difference from 1.1
    - All variables and .js files are generically named
      * floor.js 🡪 environment.js
      * vacuum.js 🡪 agent.js
    - Vacuum image changed into lizard
    - Layers of dirt changed to number of bugs

Contains:

* Counter for number of dirty tiles
* Children At Play
* Murphy’s Law
* Child Interference
* Hyper Cleaning 2x & 3x
* Number Of Dirty Tiles
* Width
* Length
* Search Algorithm
  + Simple
  + Dirt Sensing
  + Pac-Man
  + Mini-Map Roomba
* Right click clean
* Left click dirty
* Obstacle Functionality
* No search algorithms in dropdown menu
* Right Click On clean tile makes it an obstacle
* Double clicking an obstacle makes it a normal clean tile
* Up to four agents can act on environment at once
* Start Location for each agent
* Vacuum Class is what controls agents movement
* Sensor in separated JavaScript
  + Sends information to the vacuum class
  + Has percent fail rate based on slider
* Effector in separated JavaScript
  + Gets order to clean tile
  + Has percent fail rate based on Murphy’s Law modifier
* Look Ahead method applied to Dirt Sensing Movement
  + This allows for vacuum to look in all four directions and choose dirtiest as its target
* Allowed each vacuum to have its own movement method
* search. js is no longer what runs program but rather floor.js
* lookAhead will have the vacuum stay in the direction it has started until it reaches an end/obstacle in that direction
* End of program report appears stating number of tiles scanned, tiles cleaned, and dirt left on floor
* Dirt under a simple Roomba that has stopped will not count towards the dirt other movement types need to clean before they finish
* MiniGraph.js
* Master minimap added