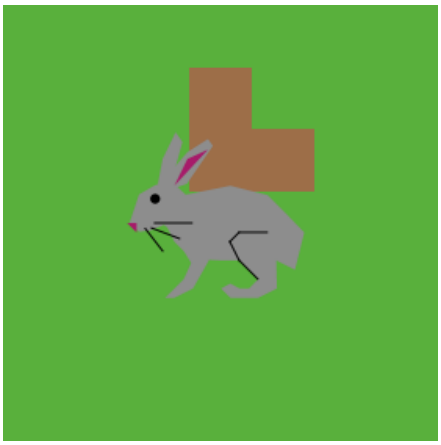
Carrying Capacity

Carrying capacity refers to the population of an organism that can be sustained by an environment. Carrying capacity is a function of the availability of resources in the environment and how quickly the population grows.

How the model works

This model consists of two components: patches and agents. The agents in this case are hares, while the patches are parts of the hare's environment. Some parts of the environment have food (green) while others do not (brown).



Hares require food from their environment. Each day, a hare will consume the food in its immediate environment. This removes the food from the patch for now, but it will regrow after a certain number of days. If there is no food on the patch, the hare dies.

If the hare survives, it will try to move to a surrounding patch that has no other hares on it. If one of those patches has food, the hare will choose to move there; otherwise, it will move to any free patch. If there are no free patches in the surrounding area, the hare will stay where it is.

After all the surviving hares have moved, a percentage of these hares will reproduce. The new hare will then move to a free patch in the surrounding area. If there are no free patches, then the reproduction fails.

Patches that have no food will regrow food after a certain number of days.

Things to try