Ant Sim ideas:

2 Classes of ants:

Hauler Ants:

Carries food

Follows highest concentration of pheromones

Only releases pheromones when it has food

Seeker Ants:

Seeks for food

Tries to go to areas with the least concentration of pheromones

When it finds food it releases twice as much pheromones on the way back to the nest

Algorithm:

Check which type ant is

If Seeker: handle seeker logic

If Hauler: handle hauler logic

Seeker logic:

Check if ant has food:

Yes: Head back to nest releasing double pheromones

No:

Check if cell has food:

Grab food and head back to nest

Check every direction not directly behind it (square right behind and to the left/right of that square)

At each cell sum up the pheromones of a 3x3 square with the cell as a far edge

Go to the cell with the least pheromones

Hauler logic:

Don’t leave nest until food has been found

Has Food:

Yes:

Head to nest releasing pheromones

Cell Contains Food:

Yes:

Grab food and head back

No:

Go to cell with most pheromones