

Objects versus Agents

The programmer's approach to agent-based models

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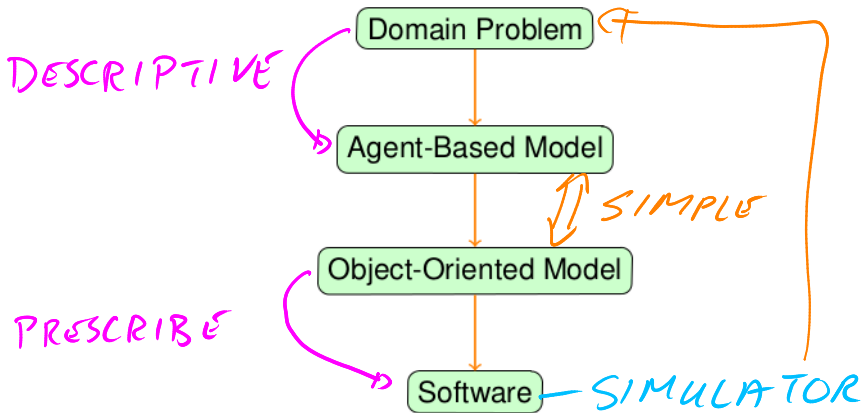
Høgskolen i Ålesund

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Agent-Based Programming

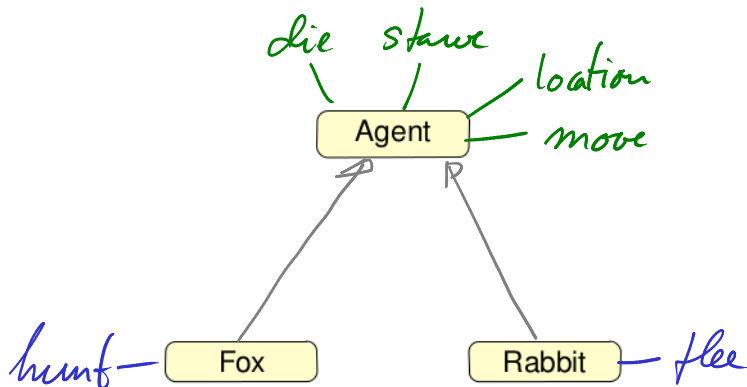
- Starting point
 - Model
 - Individual as agent
- Objective
 - Simulation of the model
 - Implementation of each agent
- Agents as objects
 - autonomous agents give autonomous objects

Modelling Sequence

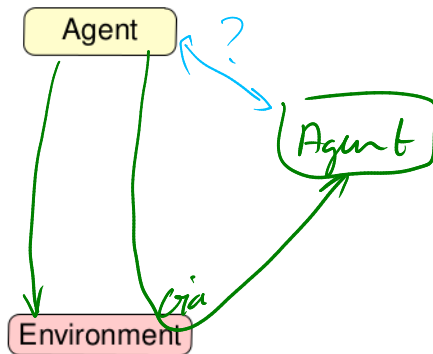


Agents

Objects and Inheritance



Agents and Environment



- Discrete time
 - each agent act at each time step
- Do all agents act simultaneously?
 - ... or do they take turns.
- Simultaneous action is harder to implement
 - conflicting actions must be resolved

Summary

- Agents map well into an object-oriented model
- Additionally
 - 1 model the environment
 - 2 agent-environment interaction
 - 3 clarify time – simultaneous or sequential actions