

## (a) Well-defined Mathematics Problem

Formulated Problem

$$\begin{aligned}x + 2y &= 10 \\x + y &= 6\end{aligned}$$

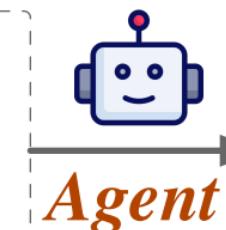
 **Agent**

$$x = 2 \quad y = 4$$

Solution

## (b) Real-world Open-ended Mathematical Modeling Problem

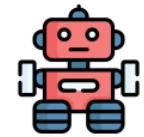
Decision-making Scenario



Problem Formulation

Task:

- A: allocate firefighting resources
- B: plan evacuation routes
- C: dispatch helicopters
- D: schedule supply deliveries



**Agent**



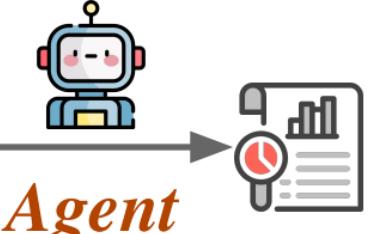
$$J(\beta) = \sum_{i=1}^n (y_i - \hat{y}_i)^2$$

Linear Regression



Computational Solving

**Agent**



**Agent**

Report

Modeling