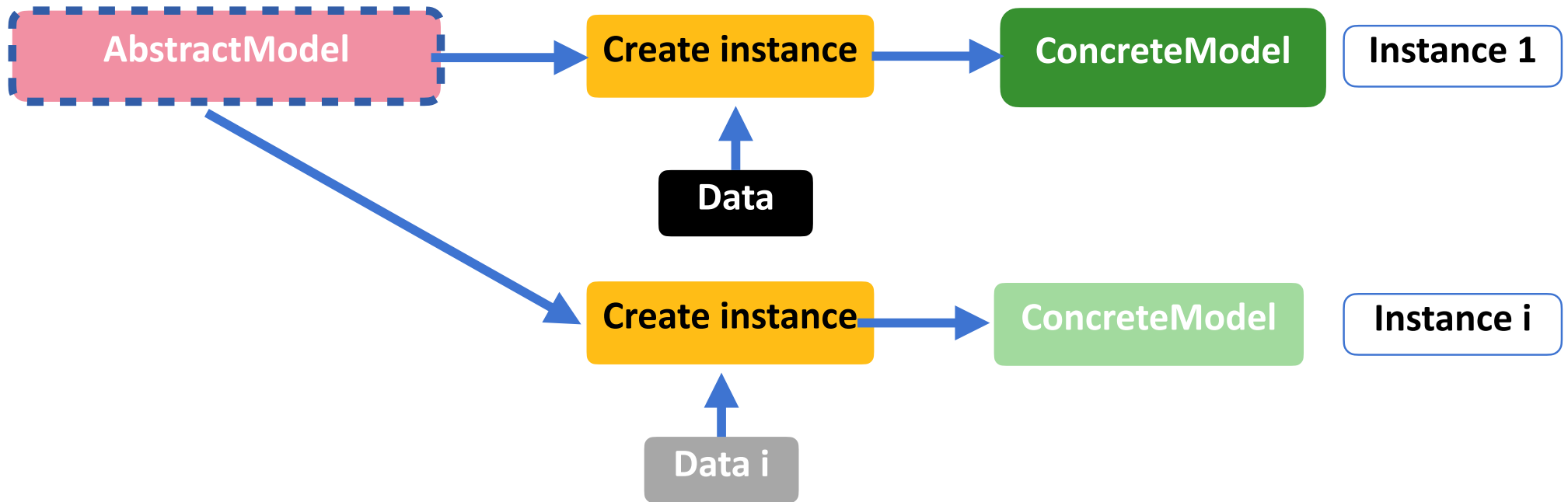


Abstract Model



Concrete Model

The concrete models are a special case of Abstract models

$$\begin{aligned}\max OF &= c_1x_1 + c_2x_2 \\ a_{11}x_1 + a_{12}x_2 &\leq b_1 \\ a_{21}x_1 + a_{22}x_2 &\leq b_2 \\ x_1, x_2 &\geq 0\end{aligned}$$

Abstract model

$$\begin{aligned}\max OF &= 3x_1 + x_2 \\ 2x_1 + 3x_2 &\leq 4 \\ 9x_1 + 1x_2 &\leq 6 \\ x_1, x_2 &\geq 0\end{aligned}$$

Instance 1

$$\begin{aligned}\max OF &= 3x_1 + 2x_2 \\ 1.2x_1 + 4x_2 &\leq 1 \\ 1x_1 + 8x_2 &\leq 7 \\ x_1, x_2 &\geq 0\end{aligned}$$

Instance 2

Concrete model

Concrete Model

Python code

$$\begin{aligned}\max OF &= 3x_1 + x_2 \\ 2x_1 + 3x_2 &\leq 4 \\ 9x_1 + 1x_2 &\leq 6 \\ x_1, x_2 &\geq 0\end{aligned}$$