

最適化（後半） 第9回

課題の解答例

$$b=11, \quad c_1=8, \quad c_2=10, \quad c_3=7, \\ a_1=4, \quad a_2=6, \quad a_3=3$$

ここで $\lfloor \cdot \rfloor$ は整数値への
切り下げを表す。

$$LB := c_3 + c_1 = 7 + 8 = 15$$

$$\begin{aligned} UB(P_1) &= \lfloor c_3 + c_1 + c_2 \times (4/6) \rfloor \\ &= \lfloor 7 + 8 + 10 \times (4/6) \rfloor \\ &= 21 > LB = 15 \end{aligned}$$

$$\begin{aligned} UB(P_2) &= \lfloor c_1 + c_3 + c_2 \times (4/6) \rfloor \\ &= \lfloor 7 + 8 + 10 \times (4/6) \rfloor \\ &= 21 > LB = 15 \end{aligned}$$

$$\begin{aligned} UB(P_3) &= \lfloor c_3 + c_2 \rfloor = \lfloor 7 + 10 \rfloor \\ &= 17 \leq LB = 18 \end{aligned}$$

限定操作により終端

$$\begin{aligned} UB(P_4) &= \lfloor c_1 + c_2 + c_3 \times (1/3) \rfloor \\ &= \lfloor 8 + 10 + 7 \times (1/3) \rfloor \\ &= 20 > LB = 15 \end{aligned}$$

$$\begin{aligned} UB(P_5) &= \lfloor c_1 + c_3 \rfloor = \lfloor 8 + 7 \rfloor \\ &= 15 \leq LB = 18 \end{aligned}$$

限定操作により終端

実行不可能

実行可能

$$f(P_7) = c_1 + c_2 = 8 + 10 = 18$$

$$LB := \max \{15, 18\} = 18$$

暫定値の更新

