Lesson 6: Exercises

6.1 Consider the following optimisation problem:

$$\max z = 12x_1 + 20x_2$$

$$s.t.\ 0,2x_1 + 0,4x_2 \leq 400$$

$$0,2x_1 + 0,6x_2 \leq 800$$

$$x_1, x_2 \in \mathbb{N}$$

- write the implicit JuMP model corresponding to this problem,
- compute and return the optimal solution and the optimal value of the function.

Entrée [ ]:

6.2 For the unidimensional 01 knapsack problem,

$$z = \max \left\{ px \mid wx \leq c,\ x \in \{0,1\}^n \right\}$$

with

- $n = 5$
- $p = (5,\ 3,\ 2,\ 7,\ 4)$
- $w = (2,\ 8,\ 4,\ 2,\ 5)$
- $c = 10$

compute the optimal solution.

Entrée [ ]: