

# Mathematical Programming: Modelling and Applications

Sonia Cafieri

LIX, École Polytechnique

`cafier@lix.polytechnique.fr`

October 2009

# Outline

## 1 Inheritance problem

# Inheritance problem

A rich aristocrat passes away, leaving a large legacy which must be shared between the two sons.

The value of each item of the legacy is known.

Find the partition that minimizes the difference between the values of the two parts.  
Formulate a mathematical program and solve it with AMPL.

# Inheritance problem: data

13 items

- 1 25000\$
- 2 5000\$
- 3 20000\$
- 4 40000\$
- 5 12000\$
- 6 12000\$
- 7 12000\$
- 8 3000\$
- 9 6000\$
- 10 10000\$
- 11 15000\$
- 12 10000\$
- 13 13000\$