

### Exercise 1.9.1

A factory has  $n$  suppliers that produce quantities  $x_1 \dots x_n$  per day. The factory is connected with suppliers by a system of roads, which can be at variable capacities  $c_1 \dots c_n$ , so that the factory is supplied daily the amount  $x = c_1x_1 + \dots + c_nx_n$ .

- (a) Given that the factory production process starts when the supply reaches the critical daily level  $b$ , write a formula for the daily factory revenue.
- (b) Formulate the problem as a learning problem.

### Exercise 1.9.2

A number of financial institutions, each having a wealth  $x_i$ , deposit amounts of money in a fund, at some adjustable rates of deposit  $w_i$ , so the money in the fund is given by  $x = x_1w_1 + \dots + x_nw_n$

### Exercise 1.9.3

### Exercise 1.9.4