Prolog exercises
Hints

- Focus on the solutions, in particular on the features of the result
- The result is a parameter of the predicate
- Variables start with a capital letter, atoms with a lower case letter
- Exploit recursion
  - Base case(s)
  - Generic case(s)
Exercises

- Define a predicate `conta` that counts the occurrences of an element in a list.
- Define a predicate `naturali` that, given a number $n$, computes an ordered list with the first $n$ natural numbers.
- Define a predicate `ribalta` that computes the reverse of a list.
- Define a predicate `inserisci` that inserts a number in an ordered list.
- Given a list of integer, define a predicate `quadrati` that computes a list with their squares.
- Given a list of elements, define a predicate `sonoListe` that computes a list of booleans that tell whether each element is a list.
Exercises

A tree can be represented as:

- [], or
- [root, left, right]

Where root is a value and left and right are two trees

Define a predicate **creaAlberoBilanciato** that, given a depth, creates a random tree with the given depth

Define a predicate **profondità** that computes the depth of the tree

Define a predicate **stampaDF** that prints the elements of the tree in depth-first order

Define a predicate **contaNodi** that counts the number of nodes in the tree