Create a type for pairs of numbers.

Define functions to extract members of pairs
of numbers.

State that the `pair` constructor is surjective.

Create a type for a list of numbers.

Define the length of a nat list.

Define an append function for nat lists.

Define a subset function for bags.

State the associativity of nat lists.

Define a snoc function for nat lists.

Define a reverse function for nat lists.

State that the empty nat list is the right identity
with respect to append.

State a fundamental relationship between `rev` and `snoc`.

State that reversing a nat list is involutive.

Create an option time for nat lists.

Define an index function for nat lists.

State that equality of nats is symmetric.

Create a dictionary type for nats.

Define key/value insertion for nat dictionaries.

Define a lookup function for nat dictionaries.

State the first important dictionary invariant.

State the second important dictionary invariant.