

## Approximation

## 1 Why

Often we want to find an object of a set which is similar to a give object of a superset. In other words, we are given an object in some set. And, within a subset of that set, we want to find an object which is most similar to the given object.

## 2 Definition

Approximation is a mathematical optimization problemin which we find an element (from a given subset) which is similar to a particular element of a set. We call an element of the the subset an approximant.