**Why**

A classifier predict one value, for which reason it is sometimes called a *point classifer* or *point predictor*. A natural extension is to ask for an ordered list of classifications.

**Definition**

A *list classifier* is a function from an input to a list of outputs. For example, if our classifier maps to lists of length three, we may interpret the elements of the list as the classifier's top, second and third ranked guesses.

For an example application, consider a recommendation system. The input is a user query and the output is a list of ordered guesses.

**Nearest-neighbor list classifier**

List Classifiers

Classifiers

Predictors    Factorials

Sequences    Natural Products

Lists    Natural Sums

Set Numbers    Direct Products    Recursion Theorem

Finite Sets

Equivalent Sets

Function Inverses    Natural Order    Family Unions and Intersections

Function Composites    Function Images    Peano Axioms    Families

Equivalence Relations    Functions

Relations    Natural Induction

Set Products

Set Powers    Natural Numbers    Generalized Set Dualities

Partitions    Unordered Triples    Successor Sets    Intersection of Empty Set    Set Dualities    Set Unions and Intersections

Ordered Pairs    Set Intersections    Pair Unions    Set Complements

Set Unions    Set Differences    Pair Intersections

Unordered Pairs    Empty Set

Set Specification

Set Inclusion

Standardized Accounts

Accounts

Deductions

Quantified Statements

Logical Statements

Statements

Identities    Sets

Names

Letters    Objects