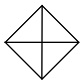


Why

We name a predictor whose set of postcepts is finite.

Definition

A *classifer* is a predictor whose codomain is a finite set. In the case that we call the predictor a classifier, we call the postcepts *classes* or *labels*. We call the prediction of a classifer on a precept the *classification* of the precept.

We call the classifier a *binary classifier* (some authors: *two-class classifier*) if the set of labels has two elements. In the case that there are k labels, we call the classifier a *k-way classifier*, *k-class classifier* or *multi-class classifier*. This second term is used, illogically but conventionally, in contrast to binary classification.

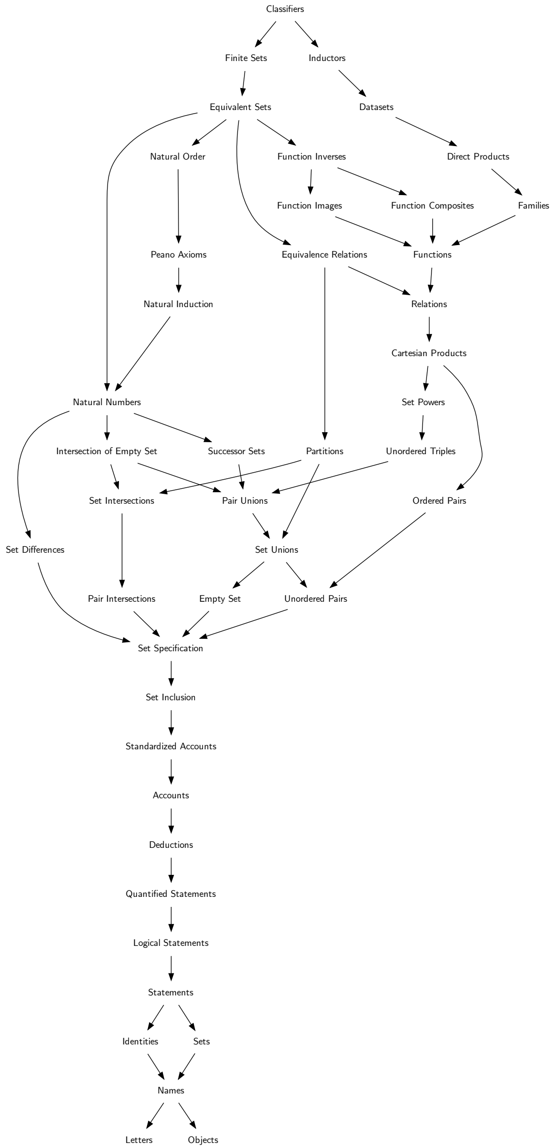
Let A be a set of precepts (inputs) and let B be a set of labels (postcepts, outputs). Suppose $B = \{0, 1\}$, so that, in particular B is finite. Then $f : A \to B$ is a binary classifier with labels 0 and 1. Suppose instead that $B = \{\textsc{Yes}, \textsc{No}, \textsc{Maybe}\}$ In this case, we would call $f : A \to B$ a three-way classifier.

Other terminology

Following our terminology, but speaking of processes, some authors refer to the application of inductors for these special cases as *binary classification* and *multi-class classification*. Or they speak of *classification* or a *classification problem*.

Some authors refer to a classifier as a *discriminator* and reference *discrimination problems*. Some authors refer to a classifier as a *point classifier* since it makes one guess.[1]

[1]Future editions may remove this. This term is used in contrast with list predictors, mentioned in subsequent sheets.



Classifiers
Finite Sets
Inductors
Equivalent Sets
Datasets
Natural Order
Function Inverses
Direct Products
Function Images
Function Composites
Families
Peano Axioms
Equivalence Relations
Functions
Natural Induction
Relations
Cartesian Products
Natural Numbers
Set Powers
Intersection of Empty Set
Successor Sets
Partitions
Unordered Triples
Set Intersections
Pair Unions
Ordered Pairs
Set Differences
Set Unions
Pair Intersections
Empty Set
Unordered Pairs
Set Specification
Set Inclusion
Standardized Accounts
Accounts
Deductions
Quantified Statements
Logical Statements
Statements
Identities
Sets
Names
Letters
Objects