truth function

Canonical name	TruthFunction
Date of creation	2013-03-22 11:53:03
Last modified on	2013-03-22 11:53:03
Owner	akrowne (2)
Last modified by	akrowne (2)
Numerical id	8
Author	akrowne (2)
Entry type	Definition
Classification	msc 03B05

A *truth function* is a function that returns one of two values, one of which is interpreted as "true," and the other which is interpreted as "false". Typically either "T" and "F" are used, or "1" and "0", respectively. Using the latter, we can write

$$f : \{0, 1\}^n \to \{0, 1\}$$

defines a truth function f. That is, f is a mapping from any number (n) of true/false (0 or 1) values to a single value, which is 0 or 1.