Package ‘mcbiopi’

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Title Matrix Computation Based Identification Of Prime Implicants
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Description Computes the prime implicants or a minimal disjunctive normal form for a logic expression presented by a truth table or a logic tree. Has been particularly developed for logic expressions resulting from a logic regression analysis, i.e. logic expressions typically consisting of up to 16 literals, where the prime implicants are typically composed of a maximum of 4 or 5 literals.
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R topics documented:
generateTruthTab ................................................................. 1
minDNF ............................................................................. 2
prime.implicants ................................................................. 3

Index

generateTruthTab       Truth Table for a Logic Tree

Description

Generates the truth table or the prime implicants, respectively, for a logic tree built in a logic regression,
Usage

generateTruthTab(ltree)

getPImps(ltree, type)

Arguments

ltree an object of class logregtree.

type the type of the logic regression model that has been fitted.

Author(s)

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See Also

prime.implicants

Description

Computes the minimal disjunctive normal form for a given truth table.

Usage

minDNF(mat)

Arguments

mat a matrix containing only 0’s and 1’s. Each column of mat corresponds to a binary variable and each row to a combination of the variables for which the logic expression is TRUE.

Value

An object of class minDNF containing a vector comprising a minimized set of prime implicants. If more than one solution exist, then a list is returned containing all solutions.

Author(s)

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References

Description
Computes the prime implicants of a given truth table.

Usage
prime.implicants(mat)

Arguments
mat a matrix containing only 0’s and 1’s. Each column of mat corresponds to a binary variable and each row to a combination of the variables for which the logic expression is TRUE.

Value
An object of class primeImp containing a vector vec.primes comprising the prime implicants and a matrix mat.primes representing the prime implicant table.

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References

See Also
mindnF
Index

*Topic logic
  generateTruthTab, 1
  minDNF, 2
  prime.implicants, 3

*Topic optimize
  minDNF, 2

*Topic print
  minDNF, 2
  prime.implicants, 3

*Topic utilities
  generateTruthTab, 1
  evalTree (generateTruthTab), 1
  generateTruthTab, 1
  getPImps (generateTruthTab), 1
  minDNF, 2, 3
  prime.implicants, 2, 3, 3
  print.minDNF (minDNF), 2
  print.primeImp (prime.implicants), 3