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| Overview of DIGRAM commands, buttons, and menu items. |
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Use the HELP command to get the most recent version of this document

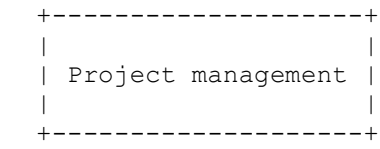
The following pages describe the available commands in DIGRAM.

In many cases, the commands require parameters to be invoked.
Use the "COMMAND ?" command for information on the command and
on the required parameters

The list of commands are organized according to the purpose of the
command. If the parameters of the commands are related to the
specific purpose, the list of commands will include these parameters.

Table of contents:

In some cases, there are buttons and/or menu items doing the same as the
commands. In these cases, we have let the commands survive even though
the buttons and menu items are more covenient, because the command may be
useful in command files



Project definitions:

IMPORT - import data for new project
CATEGORIES - revise category labels
VARIABLES - revise variable definitions
MAKE - creates SYS and TAB files with recoded project data.
SELECT - select cases for subprojects
RECODE - create new project with recoded variables
INPUT - reads data and belief values into memory. Rarely used.

Output:

OUTPUT - saves output on report files.
APPEND - append output to file
DISPOSE O - dispose output

General utilities:

SHOW - shows something depending on the parameters
HELP - provides the list of DIGRAM commands
AUTOMATIC - turns automatic mode on/off
RUN - execute a command file
READ - reads gamma values and/or belief values from files
EXIT - exit from DIGRAM
QUIT - exit from DIGRAM
EXPORT - export data for other programs
NOLOG - turn logs off
ONLOG - turn logs on

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| Forms and objects  |
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Dialog forms:

During most of time you will be working from one of the following dialog forms:

1) the DIGRAM main form,
2) the Graph form during graph management,
3) the GRM form during item analysis by graphical loglinear Rasch models.

DIGRAM objects:

During work with DIGRAM, DIGRAM you may create the following three objects that DIGRAM recognizes and saves until you change them:

1) The current 2-8 dimensional contingency table
2) The current chain graph model for the complete set of project variables
3) The current graphical loglinear Rasch model

The DIGRAM status bar at the bottom of the screen provide information on these objects

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| Descriptive statistics |
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FREQUENCIES    - shows the marginal distributions of variables
MISSING        - provide information on missing values
CORRELATIONS   - calculates correlations (Goodman & Kruskal´s gamma
                 for ordinal and binary variables
TABULATE       - creates a multidimensional contingency table
SHOW T         - shows the current table
DESCRIBE <var> - describes the relationship between the variable and
                 all other project variables
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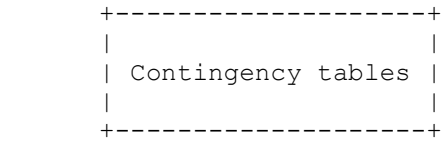

Creating tables and defining hypotheses:

TABULATE - creates a multidimensional contingency table
HYPOTHESES - defines hypotheses of conditional independence for the current contingency table
CHOOSE - create a table and define the hypothesis for one of the hypotheses created by Markov of the current graphical model
DISPOSE T - disposes the table

Define test statistics:

REPEATED - p-values by repeated Monte Carlo tests
SEQUENTIAL - p-values by sequential Monte Carlo tests
ASYMPTOTIC - asymptotic p-values for tests of conditional independence
EXACT - Monte Carlo test. Default is 1000 random tables

TWOSIDED - Two-sided p-values for test of conditional independence
ONESIDED - One-sided p-values for test of conditional independence

GLOBAL - do not include stratified (local) test results
LOCAL - include stratified test results for tests of conditional independence

CHISQUARE - use chi square tests for tests of conditional independence
DEVIANCE - use likelihood ratio deviance for tests of conditional independence
POWER - Use power divergence for tests of conditional independence

NPARTIAL - Do not include tests of partial (two-way interaction) association
PARTIAL - Include tests of partial (two-way interaction) association
FISHER - calculate Fisher´s exact test for two-way tables

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Calculate test statistics:
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TEST         - Test the hypotheses. Lots of options controlling output
HOMOGENEITY  - calculate test of marginal homogeneity
PGA          - pseudo gamma analysis searching for ordinal structure
               among nominal categories


Analyses:
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CMH          - analysis of marginal and conditional homogeneity
FIT          - fits the marginal model for the table relative
LOGLINEAR    - stepwise loglinear analysis of the current table
MANTEL       - calculate Mantel-Haenszel statistics for binary variables
THREEWAY     - tests of conditional independence in all three-way
               marginal tables of the current table
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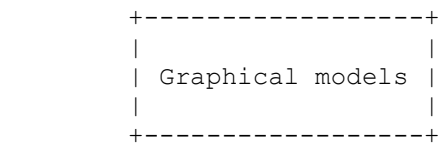

Model properties:

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GAMMA       - calculate partial gamma coefficients given separators
RELEVANCE   - analyses of relevance
PATHS       - analyses of paths between edges
CAUSAL      - analysis of paths between edges in truncated graphs
CGP         - summarize properties of the current chain graph model
RELEVANCE   - analyses of relevance
SAVE G      - save a matrix with partial gamma values
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Hypotheses defined by global Markov properties:

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SEPARATE    - hypotheses defined by separation
GMP         - hypotheses defined by the minimal global
              Markov properties
REDUCE      - hypotheses defined by reducibility
```

Modelling:

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ADD         - add edges to the current model/project graph
BACKWARD    - Backwards model search from the current model
BELIEFS     - define beliefs in edges prior to guided screening
CHECK       - tests the assumption of the current graphical model
DELETE      - delete edges from the current model/project graph
FIX         - fix edges in the model
FORWARD     - forward model search from the current model
GTEST       - generates and tests hypotheses defined by the current model
MODELSEARCH - initiates manual model search
NAIVE       - Naive model building removing insignificant edges from the
              saturated model
NEWMODEL    - defines a new model with or without edges
PREVENT     - prevent inclusion of edges during model search
SAVE B      - save a matrix with belief values for guided model search
SCREEN      - initial screening for a graphical model
SCREEN X    - initial screening followed first by automatic step backwards
              and then by automatic steps forward until test results are
              insignificant.
XPLANATORY  - fix edges in the last recursive block with explanatory variables
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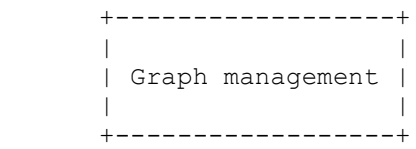

With Graph form:

HOZIZONTAL - aligns vertices horizontally
VERTICAL - aligns vertices vertically

NEWMODEL - defines a new model with or without edges
ADD - add edges to the current model/project graph
DELETE - delete edges from the current model/project graph

DOTS - draws edges and arrows as dotted lines
FIX - fix edges in the model
COLORS - defines colors of the nodes of the graph
NODECOLOR - defines the color of nodes
SOLID - draws edges and arraows as solid lines

MORALIZE - defines the moral graph of the chain graph model

With the DIGRAM form:

ADD - add edges to the current model/project graph
DELETE - delete edges from the current model/project graph
FIX - fix edges in the model
GRAPH - change from DIGRAM mode to Graph mode

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  | Item analysis by graphical loglinear Rasch models |
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Definition of the current GLLRM:
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ITEMS     - select items

SHOW I    - information on items
SHOW S    - information on scores
SHOW C    - information on components

EXOGENOUS - select exogenous variables
CUTPOINT  - define score groups by definition of cutpoints
FLIP      - change the orientation of all or some items
LLR       - Define the current graphical loglinear Rasch model
SAVE R    - save the current GLLRM
THETA     - redefine the name of the latent variable in the GLLRM
DISPOSE E - dispose exogenous variables
DISPOSE I - dispose items

COMPinfo  - Overview of info on the components of the current GLLRM
ICOMP     - Overview of definitions of item components
DEPEND    - Overview of local dependence across different subsets of items

Item analysis:
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GRM       - defines GLLRMs and invokes the GRM analysis
ITA       - item analysis without invoking the GRM dialogue
            for a subset of person parameters

SCREEN I  - item screening generating a new GLLRM
SCREEN J  - item screening, but keeps the current model
SCREEN E  - screens the effect of the exogenous variables on the score
DIF       - tests of DIF by tests of conditional independence of items
            and exogenous variables given the total score over all items
LDE       - tests of local dependence similar to tests of DIF in
            in three-way tables
CHECK     - tests the assumptions of the current GLLRM
STABLES   - creates tables with score groups and other variables

IFIT      - Item fit statistics with bootstrapped p-values for
            the current GLLRM
TFIT      - test against higher order LD and DIF in the current model
UFIT      - test that LD and DIF is uniform
CM3       - M3 tests of fit to all 2- and 3-way marginals by the
            current GLLRM
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MDIF      - analysis of multidimensional related DIF
LDIF      - analysis of DIF in longitudinal models for repeated measurements
MDD       - analysis of multidimensional related DIF - obsolete after
            implementation of MDIF
PRU       - analysis of practically unidimensionality
DETECT    - exploratory analysis partitioning items into subsets
            that may depend on different dimensions
PROFILES  - profile analysis for analysis of multidimensionality
            conditionally given an exogenous variable

TPROBS    - calculate response probabilities under the current GLLRM
            for a selection of theta values
SPROBS    - calculate response probabilities under the current GLLRM
            for theta values correspondning to different scores.
IPROBS    - similar to SPROBS except that a summary of response probabilities
            per item is included at the end
PPROBS    - calculate response probabilities under the current GLLRM
            for all persons with complete responses to items

PERSONS   - test of person fits

PURIFY    - the first step of an analysis attempting to define a subset
            of items without DIF and LD
PU2       - the second step of purification
RASCH     - invokes the Rasch analysis of dichotomous items

WMLtabs   - WML Estimates of person parameters of the current GLLRM
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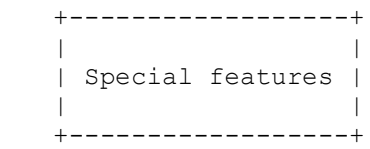

Analysis of category collapsibility:

COLLAPSE - analyses of category collapsibility
MCA - analysis of collapsibility by multiple comparisons of row and/or columns

Markov chains:

MARKOV - defines a Markov chain
MTABLES - creates tables for analysis of Markov chains
MTESTS - test hypotheses relating to Markov chains

Test equating:

EQUATE - direct test equating of two scales and indirect equating of three scales