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MINIGAP GENERALIZED ANALYSIS PACKAGE. A TOOL FOR AIDING MANAGEM--ETC(U)
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MINIGAP

LEVEL II

GENERALIZED ANALYSIS PACKAGE

A Tool for aiding management in analysis of large data bases

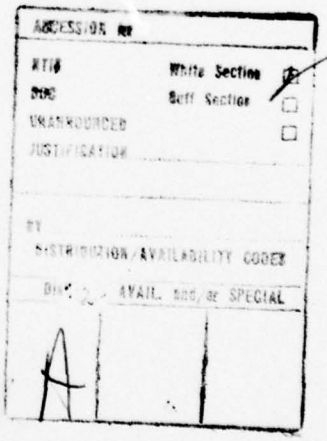
USER'S MANUAL

DEPARTMENT OF THE NAVY
OFFICE OF THE COMPTROLLER

MINIGAP

USER's GUIDE

TABLE OF CONTENTS



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For magnetic tape, see

16. Abstracts This document provides the necessary instructions for using MINIGAP. It is aimed at Interdata-knowledgeable users. It assumes that the data has been previously loaded into a MINIGAP database. The specifications of the data files are contained in the MINIGAP PROGRAMMER'S MANUAL. This manual contains samples of outputs generated by MINIGAP. Each sample output report is accompanied with the user-defined input file used to generate the report.

The USER'S MANUAL and PROGRAMMER'S MANUAL should be supplied with each MINIGAP system.

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17. Key Words and Document Analysis. 17a. Descriptors

Thesaurus of Engineering and Scientific Terms and the 1964 COSATI Subject Category List not available. See Abstracts.

(12) 48 pp

17b. Identifiers/Open-Ended Terms

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GENERAL

The MINIGAP system allows a user to produce reports formatted to his needs from a given database. A master file, containing the data, and a driver file, used to specify how the data can be accessed, must already exist. These files must have been created in the required format. (see Programmer's Documentation Manual: Master file, Driver file). An input file containing the report parameters must be set up by the user to generate reports. This file is used to specify the structure of the report, the organization/s involved, the time period/s involved, the account/s involved, and how and where the report should be output.

The following section, "STRUCTURE OF REPORT REQUESTS" should enable the user to decide which report type (2, 4, 5 or 11) is necessary to generate the desired report. This section will also explain the general requirements and structure of the input file. It explains which "line types" are necessary for each report type, and in what order they must be entered in the input file.

The next section, "PARAMETERS" describes the key parameter words and their meanings. The formats required to enter parameter words, and the other "line types" of the input file are specified in the third section, "SYNTACTICAL REQUIREMENTS". There is a separate page in this section to describe each "line type". This also contains correct and incorrect samples for each "line type" used in the input file.

The last section contains a sample of an input file for each report type, and the corresponding report.

The user should create an input file to generate a report using the editor. The user should follow the structural and syntactical requirements (see STRUCTURE OF REPORT REQUESTS and SYNTACTICAL REQUIREMENTS). The user should set the background partition of the system to at least 167K. To run MINIGAP, the user types:

GAP (filename)

where (filename) is the name of the input file created by the user. The report/s and diagnostic messages will be output to logical unit #15, unless the parameter OUTPUT was assigned by the user (see PARAMETERS, OUTPUT). If it was assigned, the report/s will be output to that logical unit, and the diagnostic messages to logical unit #15. The user should adjust GAP.CSS so that the logical unit/s for output (11, 12, 13, 14 and 15) is/are assigned to the desired devices or files (see GAP.CSS, next page).

GAP.CSS

```
*                MINIGAP REPORT GENERATOR
*                MAINTANENCE--MASIELLO
T.BG
LO .BG,MINGAP.TSK
AS 1,@1
*                ASSIGN 1 TO THE INPUT FILE
AS 2,MASTER.NRG
*                ASSIGN 2 TO THE MASTER DATA FILE
AS 3,FILE.2
*                OVERLAY--RDPARM & INITLZ
AS 4,FILE.4
*                OVERLAY--REP002
AS 5,FILE.6
*                OVERLAY--REP004
*                LU 6 MAY BE ASSIGNED FOR TRACES
AS 7,DRIVER.NRG
*                ASSIGN 7 TO THE DRIVER DATA FILE
AS 8,FILE.7
*                OVERLAY--REP005
AS 9,FILE.8
*                OVERLAY--REP010
AS 10,FILE.9
*                OVERLAY--REP011
AS 14,TER1:
*                OUTPUT FOR REPORT
SCR GAP.SCT
AS 15,GAP.SCT
*                OUTPUT FOR DIAG. MESSGS.
ST
CL ALL
$EXIT
```

SECTION 2. STRUCTURE OF REPORT REQUESTS

STRUCTURE OF REPORT REQUESTS

There are four different general report structures used with MINIGAP. The first, generated by REPØØ2, contains accounts and account computations in the rows, with a column for each organization. The entire report is for one time period. The next report type, generated by REP004, is the reverse of the type 2 report. The accounts and computations are in the columns, and the rows represent the organizations. The third report is generated by REP005. Each column contains one time period or a calculation involving time periods. The accounts and account computations are in separate rows. The entire report is for one organization. The last report, generated by REPØ11, has a separate column for each time period, or time period calculation. Each row contains data for one organization, and the entire report is for one account, or account calculation.

An input file used to generate a report must specify the report type, the contents of the rows and the columns, and how the data will be output. Each report type requires slightly different input.

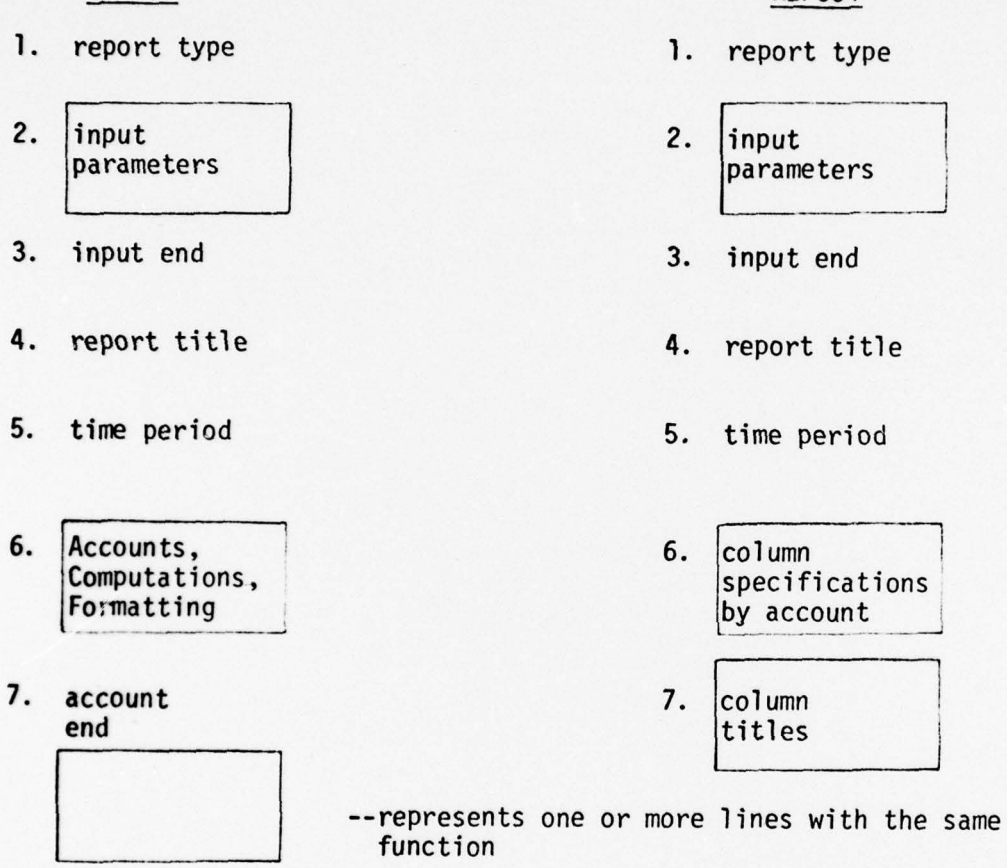
The first line of each report request must contain the report type (2, 4, 5, 11). This should be followed by all of the key parameters (see next section, PARAMETERS) the user wishes to specify. These are followed by a line of special characters, to denote the end of the parameter specifications, and then, the report title. The time period/s involved is/are on the next line/s. For all report types except report type 2 the next lines specify the column contents, followed by the column titles. The column definitions are not specified for report type 2. The remaining line/s of the report are used to specify the account/s involved. These lines may also specify underlining, paging, etc. However, formatting specifications are meaningless for type 4 and type 11 reports.

MINIGAP can handle requests for more than one report at a time although each string of input data for each report must contain all the information necessary for that report. However, when report requests are strung together in one input file, for one MINIGAP run, the parameter words need not be redefined. If one of the reports specifies a given value for a parameter word, it will retain that value for all succeeding reports, unless specifically overridden in the succeeding reports. (This assumes that the succeeding reports are in the same input file, and therefore, the same MINIGAP run.)

STRUCTURE OF REPORT REQUESTS, CONT.

The following pages describe the line types necessary to generate a given report. The input file for a given report must contain the specified line types, in the specified order, as instructed by the following pages. Since the input for each report type differs slightly, the structures are defined separately. The section, "Syntactical Requirements" should be consulted to determine the actual format of the line types. If more than one line of a line type may be used, the line type is enclosed in a box. Otherwise, the line type refers to one line. For the line type, "input parameters," the section "PARAMETERS" should also be consulted.

STRUCTURE OF REPORT REQUESTS, CONT.



Syntax of each line type is described in "Syntactical Requirements".

STRUCTURE OF REPORT REQUESTS, CONT.

REP005	REP011
1. report type	1. report type
2. input parameters	2. input parameters
3. input end	3. input end
4. report title	4. report title
5. time periods	5. time periods
6. time period end (only used if the number of time periods is less than the number of columns)	6. time period end (only used if the number of time periods is less than the number of columns)
7. column specifications by time period	7. column specifications by time period
8. column titles	8. column titles
9. Accounts Computations, Formatting	9. Accounts & Computations
10. Account end	10. Account end

--represents one or more lines with the same function

Syntax of each line type is described in "Syntactical Requirements".

SECTION 3. PARAMETERS

PARAMETERS

There are 17 parameter words presently being used. These may be set to a particular numerical value, with a particular meaning. The upper and lower bounds are stored for each parameter. If either of these boundaries are exceeded, or if the user doesn't specify a value for this parameter word, the default values are used. Since all of the parameter words have a default value, it is not necessary to specify any of these, unless desired. The four characters enclosed in parentheses beneath each word are the characters that must be used to specify the parameter in the input file.

The parameter words are specified after the first line (which specifies the report type). The following parameter words are now in use:

*1.	Month (Mont)	This is used to specify the month number of the fiscal year for which data was used in the report. It will be used to print the heading of the report. This causes the time period of the report to be written on the report. The user should make certain that this agrees with the time period requested via the time period line type.
2.	Year (Year)	This is used to specify the fiscal year for which data was used in the report. (see month) Only the last two digits of the year should be specified.
3.	Columns	This is used to specify the number of columns in the report. It is not used for type 2 reports.
4.	Lines (Line)	This parameter is used to specify the number of lines in the column headings.
5.	Accuracy (Accu)	This may be equal to 0, 1, 2 or 3. It specifies the number of digits output to the right of the decimal point.
6.	Spacing (Spac)	This is used to specify single (=1), double (=2) or triple (=3) spacing.
**7.	Level 1 (Acti)	This is used to specify the desired organization's rank at level 1 (the lowest level). (If it is set to zero, all the organizations which are members of the requested level 2 subtotal are output. If it is set to 20, only the level 2 subtotal is output.)

*If MONTH=1, the first month of the fiscal year will be printed in the heading. For example, in Fiscal Year 1976, the first month was July. However, in Fiscal Year 1977, the first month was October.

**If all of the "level" parameters are set to 20, the grand total of all the organizations is used. See "Organization Structure," page 3-5.

PARAMETERS, CONT.

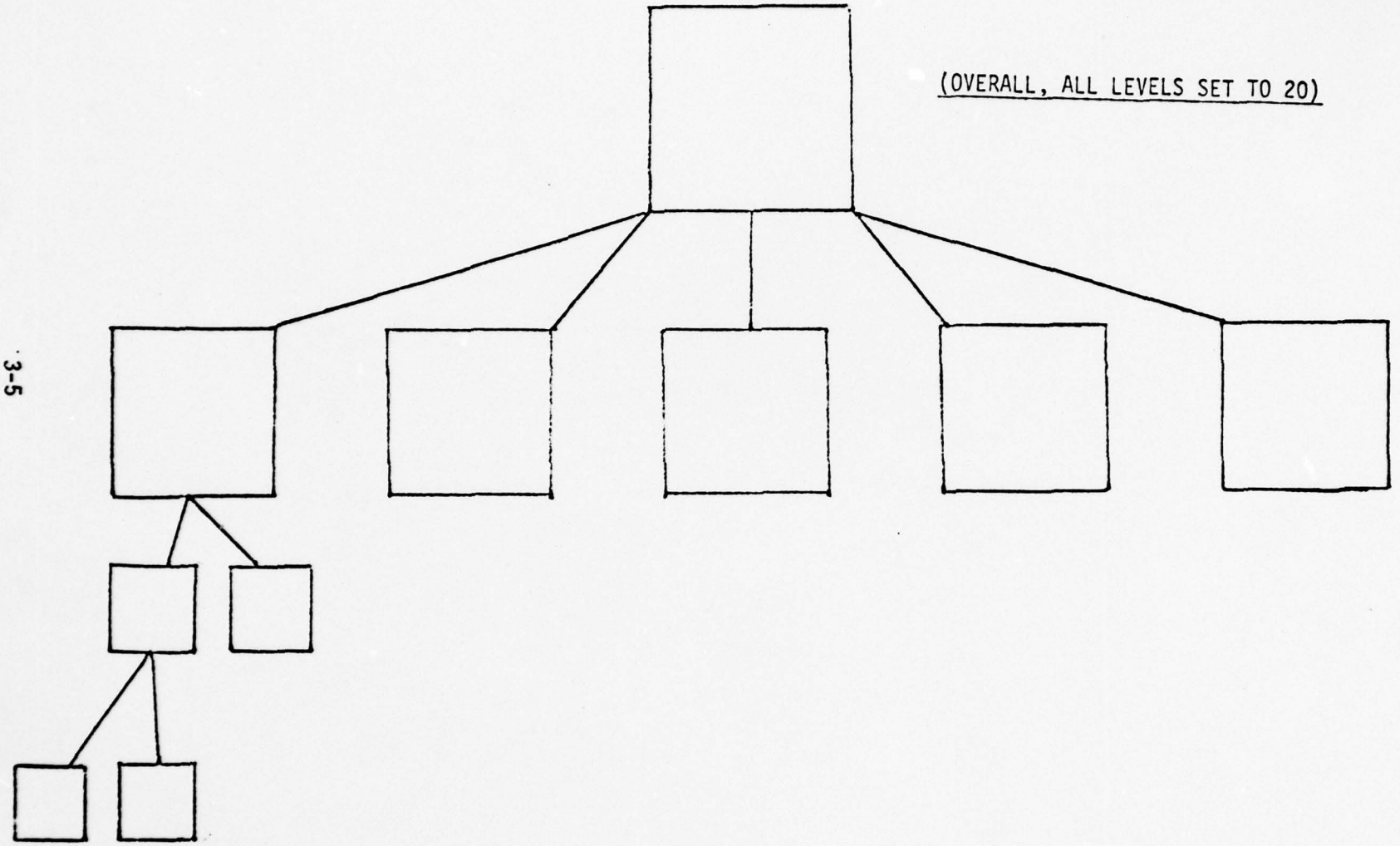
*8.	Level 2 (Comm)	This is used to specify the level 2 group of which the requested organization is a member. (The combination of this number with the level 1 number must uniquely define the desired organization or subtotal.) If it is set to zero, all the level 1 organizations which are members of the requested level 3 subtotal are output. If it is set to 20, only the requested level 3 subtotal is output.
*9.	Level 3 (Thir)	This may be used to specify a third level of organization. If this is set to 20, the third level of organization is ignored. Otherwise, it will output the organizations which are members of the level 3 subtotal, within the constraints of the level 1 and level 2 specifications (see: Parameters, level 1 and level 2, above).
10.	Scale (Scal)	If this parameter is set to "1", the data is output in units. If it is set to "1000", the data is output in thousands. If it is set to "1000000", the data is output in millions. These are the only acceptable values for this parameter.
11.	Page (Page)	The page numbering will begin with the number assigned to this parameter, incremented by 1. (Since the default value is zero, if this parameter is not set by the user, page numbering will begin with "1".)
12.	Maxlines (Maxl)	This parameter is used to specify the maximum number of lines to appear on one page of a report. A new page, if necessary, will be started after the number of lines output equals the maximum number of lines (as specified with this parameter).
13.	Input (Inpu)	This parameter can be used to specify the logical unit from which all future input is read. However, this does not take effect until it has been read. The specification of a report type and the line containing this parameter must, minimally, be contained on the device assigned to logical unit #1. In addition, the file must be assigned in "GAP.CSS". The only available device numbers for this are 11, 12, 13 and 14.

*If all of the "level" parameters are set to 20, the total of all the organizations is used. See "Organization Structure," page 3-5.

PARAMETERS, CONT.

14.	Output (Outp)	The report itself will be output to the logical unit assigned to this parameter. If this parameter is not used, the report will be output to device #15, with all MINIGAP messages. The output file must be allocated and assigned in GAP.CSS to the device number assigned to OUTPUT. The only available device numbers are 11, 12, 13 and 14.
15.	Width (Widt)	This parameter is used to specify the width of the columns. Each column will be the same width.
16.	Length (Stub)	This parameter is used to establish the length of the row labels, in multiples of four (If LENGTH = 9, the row label will contain space for 36 characters).
17.	Commas (Punc)	If this parameter is set equal to 1, the numbers will be output with commas imbedded. If it is set to zero, the commas will be suppressed.

ORGANIZATION STRUCTURE



(OVERALL, ALL LEVELS SET TO 20)

(LEVEL 3)

(LEVEL 2)

(LEVEL 1)

RESERVED PARAMETER WORDS

Word	*Name of Parameter Word	Value		
		Default	Maximum	Minimum
Month	Mont	1	12	1
Year	Year	76	85	75
Columns	Colu	1	15	1
Lines	Line	1	8	1
Accuracy	Accu	0	3	0
Spacing	Spac	1	3	1
Level 1	Acti	0	20	0
Level 2	Comm	0	20	0
Scale	Scal	1	1,000,000	1
Page	Page	0	1,000	0
Maximum lines	Maxl	60	1,000	1
Input	Inpu	1	32	1
Output	Outp	15	32	1
Width	Widt	8	16	1
Length	Stub	10	10	1
Commas	Punc	1	1	0
Level 3	Thir	20	20	0

This chart specifies the bounds of the parameter words, and their default value if not specified, or if the bounds are exceeded.

*These are the names used by the user in the input file.

SECTION 4. SYNTACTICAL REQUIREMENTS

1. Report Type
2. Input Parameters
3. Input End
4. Report Title
5. Time Period
6. Time Period End
7. Column Specifications
8. Column Title
9. Formatting
10. Accounts
11. Computations
12. Account End

SYNTACTICAL REQUIREMENTS

This section describes the syntax required for the user input file. The section "STRUCTURE OF REPORT REQUESTS" explains the general requirements of the input file, and the required order of the items in the input file. The section PARAMETERS describes the function of the input parameters.

The syntax will be described in two manners. A verbal description of each line type is used together with a semi-formal grammatical representation of each line type as possible. Following the line type descriptions are samples of user-input files and copies of the reports generated by them.

The following page of definitions should be consulted to understand the grammatical representation of each line. Any line which begins with a semi-colon will be disregarded. This enables the user to insert documentation in the report definition. A semi-colon may also be placed on a specification line -- anything following the semi-colon (on that line) will be disregarded.

SYNTACTICAL REQUIREMENTS, CONT.

```
  ALPHA        :  (BLANK) /A, B, C...Z/ (ALPHA)
  BLANK        :  / / (BLANK)
 *FORMULA      :  (BLANK) (SEPARATOR, (, )) /STRING, INTEGER/ (FORMULA)
  INTEGER      :  (BLANK) /!/ (BLANK) (+, -) /NUMBER/
  NUMBER       :  (BLANK) /Ø, 1, 2...9/ (NUMBER)
  QUOTE        :  /BLANK/ /'/ (STRING) /'/ (BLANK)
**SEPARATOR    :  (BLANK) /^, *, /, +, -, =/
  STRING       :  (BLANK) /ALPHA, NUMBER/ (STRING)
```

KEY

```
()  encloses an optional set
//  encloses a set of which at least one element is required
&   may be used to allow definitions to continue on the next line
```

NOTE: None of these symbols are themselves used by a user creating an input parameter file, except as noted. They are merely being used in this manner to describe the grammar itself. In addition, any commas encountered in the grammatical description are not members of the set itself, unless otherwise noted.

*For every '(' used, a corresponding ')' must be used on the same line. The '(' and ')' are both members of an optional set in this line.

**The symbol '/' is a member of the required set in this line.

Report Type

This should be the first line of any input file. It must contain an equation which sets a string equivalent to the number of the desired report type. The number may also be expressed as an arithmetic expression. The string should be on the left side of the equation, and the number on the right. *If the number is a constant, it must be preceded by an "!".

report type: (STRING) /SEPARATOR/ /FORMULA/

Correct	Incorrect
repo = !2 areport = (!5 - !3) type +!2 reportype = !2	repo = 2 abc(!5-!3) 2=!report
The above lines will identify the report as a type 2 report. The insertion of blanks makes no difference in the line. A computation may be easily expressed, although a line which is easily clear to an observer is recommended.	The first line will treat "2" as a variable, not a constant. The second line will request report type 3, which is probably not the user's intention. The third line would consider "report" as a constant, and would be senseless.

Note also that the preliminary string on the left side of the equation is optional.

---

*The only time that a variable could be used would be when it has already been defined. Since the report type line must be the first line of the report generation input, a variable would only be previously defined if the input file contained lines for generating at least one other report preceding this one. Using a variable would make the report type line harder to understand, so is not recommended.

Input Parameters

The input parameters are specified consecutively, starting in the second line. These are in the form of equations, the right side containing a constant (number preceded by an '!'), parameter variable, or arithmetic expression, and the left side containing at least the first four characters of the parameter word. The parameter word may always be accessed by using its first four characters.

```
input parameter:  (BLANK) /the first four letters of  &
                  a parameter word/ (STRING) (BLANK)  &
                  /=/ (BLANK) /FORMULA, the first     &
                  four letters of a parameter word/   &
                  (STRING)
```

Correct	Incorrect
WIDTh = !8 ;define width ACCU = !1ØØ SCALe = (!1Ø * ACCU)	colwidth = 8 ACCUracy--!5 SCALe = /*ACCU +!1Ø
The width parameter will define the column width equal to 8 characters. The wording following the semi-colon will be disregarded. Although the syntax in the line defining the accuracy is correct, 100 will exceed the maximum bounds for this parameter, and the default value will be used. The third example illustrates the use of an arithmetic formula to define the parameter.	The first line does not contain the first four letters of any parameter on the left side. In addition, a constant is used which is not preceded by an '!'. The second line would be correct if the '--' were replaced with '='. The '=' is required to equate the two sides. The third line does not contain a valid arithmetic expression. If the '/*' were eliminated, the statement would make sense. However, if (accu + ! 1Ø) is not a valid value for the scale parameter, a default value will be used.

Input End

The line following the input parameters denotes the end of the input parameters. The only requirement for this line is that the first non-blank character in this line is one of the 19 special characters (as listed below). The content of the line does not matter, as its only purpose is to denote the end of the input parameter list.

*input end: (BLANK) /^, *, /, +, -, =,), (,],[, ., ,, ', :, ;, ?, %, !, $/
(input end, STRING)

Correct	Incorrect
**end of list /stop/ ====	the end!!!! & stop now. report title
Each of these lines will correctly denote the end of the parameter list. This line must be the line immediately following the input parameter list.	The first non-blank character must be a special character, as defined above. In these lines, the first non-blank characters are, respectively, 't', '&', and 'r'. None of these characters are included in the special character list.

---

*This set includes a comma, left and right parentheses, left and right brackets, and a slash as special characters.

Report Title

The next line in the input file is assumed to be the report title. Since all characters and symbols may be used in the title, anything is syntactically correct. Only the first 36 characters are used for the title. Any blanks in the title will be output as is (the entire line may be blank).

report title: the first 36 characters in this line are treated as the title.

Time Period

The next line/s in the report will specify the time period/s. Where multiple time periods may be used, it is incorrect to specify more time periods than columns. The first 8 characters of the line must contain a valid time period name (8 characters, including blanks, are required). The next character (in column 9) must be a blank, 'C', 'L', 'M', 'Q', or 'P'. These characters are defined as follows:

blank or 'C'	use cumulative data
'L'	use data for the period requested, but from the base year
'M'	use monthly data
'Q'	use quarterly data
'P'	use data for the period requested, but from the previous year

These definitions are based on the time period pointers stored in the first record of the master file. Check with programmer for up-to-date definitions.

If the data is to be 'spread' over a period of time, the letter 'S' should be placed in column 20. (i.e., a year-end total could be 'spread over 12 months.)

time period: /8 characters of time period name / / , C, L, M, Q, P/
(10 spaces followed by the letter 'S'.)

If an incorrect time period is specified, the MINIGAP run will stop, and an error message will be printed.

TIME PERIOD END

The charts in "STRUCTURE OF REPORT REQUESTS" show which report types may contain more than one time period (5 & 11). If more than one time period may be used, but there are fewer time periods than the number of columns, this line must be inserted after the last time period is specified. This line must be entered exactly as is.

time period end: /Ø999/

Correct	Incorrect
Ø999	anything else.

This line should not be entered if only one time period is allowed, or if the number of time periods in a multiple-time-period report equals the number of columns. Since MINIGAP 'keys' on this line, it should not be used except where specified by the documentation.

The sequence of the remaining items in the user input file differs according to the report type. The charts in "STRUCTURE OF REPORT REQUESTS" must be consulted to determine what items are required, and in what order. Any formatting specifications may now be entered, positioned according to the user's desires.

COLUMN SPECIFICATIONS

The column specifications are dependent upon order. The first line in this group will define the first (leftmost) column, the second line will define the second column, etc. These specifications are expressed in terms of an equation, which requires the '=' sumbol between the two sides. The left side will contain a string, which will be set equivalent to the right side, and can be used subsequently to replace the terms on the right side. If the columns will contain account data, account codes may be used on the right side. Any of the arithmetic operators (^,*,+,-,/) may be used in the computation on the right side. Any constants must be preceded by an exclamation point. Any previously defined variables (including the parameter words), may be used on the right side. If the columns are specified by time, the time periods may be included (instead of the account codes) in the computation on the right side. The time periods on the right side must be represented by a letter of the alphabet. The first time period requested (as above) may be accessed by the letter 'A', the second time period, by the letter 'B', etc. One column specification line should be defined for each column desired. The number of columns desired should have been specified using the parameter 'COLUMN'.

column specification: /STRING/ (BLANK) /=/ /FORMULA/

Correct

```
column1 = A-B
c2 = (1100/1120) * !100
col3 = c2 + !100
```

The first line will subtract the data for time period 'B' from the data for time period 'A', and put the result in the column defined. (In this case, the column defined would be the leftmost column, since this is the first line of column specifications.) The report must use time period data for the columns for this line to be correct. The second line is correct if '1100' and '1120' are account codes, and the accounts are entered in the columns for this report. This will set column 2 to a percentage (as directed by the equation).
The third line will take the data to be output to column 2, add 100 to it, and store the result in column 3.
Note that these three lines should not occur in the same input file, since none of the report types use both account data and time period data in the columns.

Incorrect

```
A-B
A= (1100/1120 * !100
colu = Z
```

The first line does not contain a left side, or the '='.
The second line contains a symbol for a time period on the left side (these may occur only on the right side). In addition, the formula in this line contains a '(', but not a ')'. The third line uses an input parameter word on the left side. The letter 'Z' should not be used, since there will never be that many time periods. (maximum number of columns = 15).

Column Title

The column titles must always follow the column specifications. The titles will contain as many lines as specified with the LINE parameter. The complete title (all lines) for one column must be on one line of the input file. The lines of the title should be separated by an '@' at the end of each title line. The number of characters in any line of the title should not exceed the specified column width. If a line is to be left blank, an '@' is still needed to signify the end of that line. However, there must be at least one blank specified for that line, or it will not be printed as a line. The number of '@'s (and the number of lines) on a column title input line should not exceed the number of lines specified with the line parameter. The '@' is not needed to end a line of the column title if the number of characters in the column title is equal to the column width. Each line of the title will be centered; this may be overridden by inserting blanks, as desired, in the lines of the column title.

column title: /one line of column title, not to exceed column width/ &
(@) (column title)

Assume LINE = !4 and WIDTH = !8 for the following examples.

Correct	Incorrect
cum@amount@yr end@1976	cum amount yr end 1976@
This will generate the following title:	Although this is syntactically correct, it will not generate the same title as the 'correct' example. The title would be output as follows:
cum amount yr end 1976 --------	cum amou nt yr en d 1976 --------

---

FORMATTING

There are three types of formatting specifications. If the first four characters in a line are 'PAGE', a new page of the report will be started before any more lines are output. If the first four characters are '----', a single hashed line will be generated for that row, under the row labels and under each column. If the first four characters are '====', a double hashed line will be generated for that row, in the same manner as the single hashed line.

formatting: /PAGE, ----, ====/ (BLANK)

Correct

```
PAGE
----
====
```

These lines must each start in column 1, and are the only correct lines of formatting. These may be inserted on any lines after the time period specifications, (or after column titles, as appropriate). After a formatting specification line, no lines are output to the report until the formatting has been done.

Accounts

The lines used to specify accounts require strict formatting. The first four columns must contain the 4 character account code. The next column must be left blank. The sixth column may contain one digit, used to express the number of spaces the row labels should be right-justified in multiples of 4 (i.e., if the digit = 3, 12 spaces will be inserted to the left of the row labels). The next two columns may be used to specify vertical tabbing. Any blanks contained in columns 7 and 8 will be treated as zeroes. The number of lines skipped will equal the 2 digit number which the user inserts in these two columns.

accounts: /four character account code/ (H(VV))

where H= an optional 1 digit number representing horizontal tabbing in multiples of four

VV= 2 digit number representing the number of vertical tabs, also optional

Correct	Incorrect
1130 5 2	1130 5 2
This line directs MINIGAP to output the data for account 1130, tabbing 20 spaces (5 * 4 spaces) to the right, and inserting 2 blank lines before this line is printed.	The fifth column should be left blank, and this would direct MINIGAP to output 20 blank lines before printing this line. (Outputting 20 blank lines is permissable, but may not be what is intended by the user.)

COMPUTATIONS

All computations (except column computations which are expressed in the column specification lines) must be preceded by a 'COMP' statement. This line must contain 'COMP' in the first four columns. If any tabbing is required, it should be specified in the same manner and same columns as tabbing for accounts. (see previous page, 'Accounts'.)

The actual computation must be contained on the next line. The format used for computation specifications is similar to the format used for column specifications. However, a title for the computation (to be used as a row label, in the same manner as the account names) can be specified by enclosing the title in single quotes, following at least one blank after the computation.

computations--1: /COMP/ (H(VV))

where H= an optional 1 digit number representing horizontal tabbing in multiples of four

VV= 2 digit number representing the number of vertical tabs, also optional

computations--2: /STRING/ (BLANK) /SEPARATOR/ /FORMULA/ (QUOTE)

Correct

```
COMP 1 2
var = 82ØØ - 823Ø 'cost variance'

COMP
var2 = 84ØØ - 843Ø 'price variance'

COMP 2 2
nuvar = var2 - var 'new variance'
```

Each of the above lines calculates an account computation. The numbers '8200', '8230', '8400' and '8430' are account codes. If the numerical value for these numbers was desired, they would have been preceded by an '!'. Note that the 'string' on the left side of the first and second equations has been used to replace the right side of the equations for use in the last equation.

Incorrect

```
var = 82ØØ - 823Ø 'cost var'

COMP
var2 = var* !1Ø.5 'calc var'

COMP 2 1Ø
nu var + oldvar
```

The first line is incorrect, because it must be preceded by a 'COMP' statement.
The second set of lines may be incorrect on some machines. If the '!10.5' is replaced with '!105/!10', no syntax error will be generated, and the result will be the same on all machines. (Some machines may not be able to compute equations containing real numbers.)
The third set of lines does not contain a valid arithmetic statement. If a 'STRING' was set equal to the sum, the line would be correct. In addition, there would be only one line of vertical tabbing, since the 2 digit number must be contained in columns 7 and 8.

Account End

The last line following account, computation and formatting lines is the same as the line type "time period end". This must be the last line of input for report types 2, 5 and 11. This line is required at the end of each report generation sequence for these reports.

account end: /Ø999/

Correct	Incorrect
Ø999	anything else

See "time period end" for further information.

SECTION 5. SAMPLES

SAMPLE 1
INPUT FILE FOR TYPE 2 REPORT

```
REPORTYPE=!Ø2
OUTPUT=!14
ACCURACY=!Ø
SCALE =!1
PUNCTUATION=!1                          ;USE COMMAS
STUB=!7                                 ;ALLOW 28 CHARS. FOR ROW LABELS
PAGE=!ØØ                                ;START WITH PAGE 1
COMMAND=!6
WIDTH=!12
YEAR=!76                                ;YEAR AGREES WITH TIME PERIOD
MONTH=!12                               ;MONTH AGREES WITH TIME PERIOD
**********
SAMPLE OF TYPE 2
NRG 7612C
8200 1 1
8210 1
8220 1
8230 1
8240 1
8250 1
====                                    ;FORMATTING
8260
8205 1 1
COMP 1
DD=(8215*!116)/!10 'ELECTRICITY MBTU'
8225 1
8235 1
8245 1
8255 1
====                                    ;FORMATTING
8265
Ø999                                    ;END OF REPORT
```

5-2 Blank

SAMPLE 1
REPORT GENERATED
BY TYPE 2 INPUT FILE

DATE:03/20/78 PAGE 1
NCD-5 REPORT GENERATOR
SAMPLE OF TYPE 2
FOR PERIOD ENDING 30 JUNE 1976

ACCOUNT		PWCPERLH	PWCPERLC	PWCPERLP
8200	FUEL OIL COST	644,850	30,737	675,587
8210	ELECTRICITY COST	3,019,186	155,726	3,174,912
8220	COAL COST	0	0	0
8230	NATURAL GAS COST	0	0	0
8240	PROPANE COST	504,588	28,892	533,480
8250	STEAM COST	0	0	0
8260	TOTAL FUEL COST	4,168,624	215,355	4,383,979
8205	FUEL OIL MBTU	264,387	12,805	277,192
	ELECTRICITY MBTU	1,235,412	63,417	1,298,829
8225	COAL MBTU	0	0	0
8235	NATURAL GAS MBTU	0	0	0
8245	PROPANE MBTU	109,002	6,746	115,748
8255	STEAM MBTU	0	0	0
8265	TOTAL FUEL MBTU	1,608,800	82,968	1,691,768

SAMPLE 1
.MESSAGES OUTPUT TO UNIT 15

```
*****FPD001***** SYMBOL TABLE STORAGE BEGUN
*****FPD001*****159 ACTIVITY NAMES, UICS, KEYS
*****FPD001***** 52 FPD ACCOUNT SYMBOLS, NAMES
*****FPD001***** SYMBOL TABLE STORAGE COMPLETE


*****COMPIL***** REPORTYPE=!02
*****FPDREP***** REPORT #    1, REPORT TYPE  2
*****COMPIL***** OUTPUT=!14
*****COMPIL***** ACCURACY=!0
*****COMPIL***** SCALE =!1
*****COMPIL***** PUNCTUATION=!1                          ;USE COMMAS
*****COMPIL***** STUB=!7                                 ;ALLOW 28 CHARS. FOR ROW
*****COMPIL***** PAGE=!00                                ;START WITH PAGE 1
*****COMPIL***** COMMAND=!6
*****COMPIL***** WIDTH=!12
*****COMPIL***** YEAR=!76                                ;YEAR AGREES WITH TIME P
*****COMPIL***** MONTH=!12                               ;MONTH AGREES WITH TIME
*****COMPIL***** ************
*****GETDAT***** NRG 7612    FY76    JUN     C
*****COMPIL***** DD=(8215*!116)/!10 'ELECTRICITY MBTU'


*****FPDREP***** END OF REPORT PROCESSING
```

SAMPLE 2
INPUT FILE FOR TYPE 4 REPORT

```
REPORTYPE=!04
COLUMNS=!5                          ;PRINT 5 COLS.
LINES=!02                           ;2 LINES OF HEADINGS
ACCURACY=!00                        ;NO DECIMAL PTS.
SCALE =!1                           ;IN UNITS
COMMAND=!0                          ;FOR ALL LEVEL 2 GROUPS
THIRD=!1                            ;FOR LEVEL 3, GROUP 1
ACTIVITY=!20                        ;FOR SUBTOTALS
OUTPUT=!14                          ;SEPARATE REPORT FROM MESSAGES
WIDTH=!10                           ;COLUMN WIDTH
PUNCT=!00                           ;NO COMMAS
SPACING=!01                         ;SINGLE SPACE
YEAR=!76                            ;DATE OF DATA
MONTH=!12
,                                   ;END OF PARAMETERS
SAMPLE OF TYPE 4                    ;TITLE OF REPORT
NRG 7612C                           ;NAME OF DATA TYPE
C1=8205                             ;ACCOUNTS
C2=8215
C3=8215*!116/!10                    ;CHANGE KWH TO MBTU
C4=8235
C5=8265
FUEL@MBTU@                          ;COLUMN TITLES
ELEC@KWH@
ELEC@MBTU@
NAG@MBTU@
TOTAL@MBTU@
```

SAMPLE 2
REPORT GENERATED BY TYPE 4
INPUT FILE

DATE:04/10/78 PAGE 1
NCD-5 REPORT GENERATOR
SAMPLE OF TYPE 4
FOR PERIOD ENDING 30 JUNE 1976

ACTIVITY	FUEL MBTU	ELEC KWH	ELEC MBTU	NAG MBTU	TOTAL MBTU
PWCNORFP	4644415	439671	5100184	270894	10015492
PWCPENSP	64068	109098	1265537	2805866	4135574
PWCGRLKP	12718	106406	1234310	2931262	4178289
PWCSANDP	1431177	441949	5126608	955701	7990128
PWCSANFP	295284	203808	2364173	2225788	4885244
PWCPERLP	277192	111968	1298829	0	1691768
PWCGUAMP	133256	274008	3178493	0	3311747
PWC SUBP	1161416	128273	1487967	0	2649383
PWC TOT	8019526	1815181	21056096	9189511	38857616

SAMPLE 2
MESSAGES OUTPUT TO UNIT 15

```
****FPD001***** SYMBOL TABLE STORAGE BEGUN
*****FPD001*****159 ACTIVITY NAMES, UICS, KEYS
*****FPD001***** 52 FPD ACCOUNT SYMBOLS, NAMES
****FPD001***** SYMBOL TABLE STORAGE COMPLETE


****COMPIL***** REPORTYPE=!04
****FPDREP***** REPORT #    1, REPORT TYPE  4
*****COMPIL***** COLUMNS=!5                          ;PRINT 5 COLS.
****COMPIL***** LINES=!02                            ;2 LINES OF HEADINGS
****COMPIL***** ACCURACY=!00                         ;NO DECIMAL PTS.
*****COMPIL***** SCALE =!1                           ;IN UNITS
*****COMPIL***** COMMAND=!0                          ;FOR ALL LEVEL 2 GROUPS
****COMPIL***** THIRD=!1                             ;FOR LEVEL 3, GROUP 1
****COMPIL***** ACTIVITY=!20                         ;FOR SUBTOTALS
*****COMPIL***** OUTPUT=!14                          ;SEPARATE REPORT FROM ME
****COMPIL***** WIDTH=!10                            ;COLUMN WIDTH
****COMPIL***** PUNCT=!00                            ;NO COMMAS
*****COMPIL***** SPACING=!01                         ;SINGLE SPACE
****COMPIL***** YEAR=!76                             ;DATE OF DATA
****COMPIL***** MONTH=!12
*****COMPIL***** ,                                   ;END OF PARAMETERS
*****GETDAT***** NRG 7612    FY76    JUN     C
****COMPIL***** C1=8205                              ;ACCOUNTS
****COMPIL***** C2=8215
*****COMPIL***** C3=8215*!116/!10                    ;CHANGE KWH TO MBTU
****COMPIL***** C4=8235
****COMPIL***** C5=8265
*****RDTITL***** FUEL@MBTU@                          ;COLUMN TITLES
*****RDTITL***** ELEC@MBTU@
****RDTITL***** ELEC@MBTU@
*****RDTITL***** NAG@MBTU@
*****RDTITL***** TOTAL@MBTU@


****FPDREP***** END OF REPORT PROCESSING
```

SAMPLE 3
INPUT FILE FOR TYPE 5 REPORT

```
REPORTYPE=!5                                ;REPORT TYPE LINE
WIDTH=!09                                   ;PARAMETER LINES
COLUMNS=!03
LINES=!4
LINCOUNT=!00
MAXLINES=!66
ACCURACY=!0
SCALE =!1000
PAGE=!00
OUTPUT=!14
COMMAND=!9
ACTIVITY=!20
THIR=!1
SPACING=!01
YEAR=!0
MONTH=!03
************
SAMPLE OF TYPE 5                            ;REPORT TITLE
NRG 7503C                                   ;TIME PERIOD (A)
NRG 7T03CUMU                                ;TIME PERIOD (B)
0999                                        ;TIME PERIOD END
C1=A                                        ;COLUMN SPECIFICATIONS
C2=B
C3=A-B
CUM@AMT@1ST QTR@1975@                        ;COLUMN TITLES
CUM@AMT@1ST QTR@197T@
@ @ @VARIANCE
COMP 1                                      ;COMPUTATION
DD=8200/8260*!100  'PERCENT FUEL OIL OF TOTAL'
8200   1                                    ;ACCOUNTS
8210
8220
8230
8240
====                                        ;FORMATTING
8260
0999
```

SAMPLE 3
REPORT GENERATED BY
TYPE 5 INPUT FILE

DATE:03/20/78 PAGE 1
NCD-5 REPORT GENERATOR
SAMPLE OF TYPE 5
FOR PERIOD ENDING 30 SEPTEMBER 1975
(AMOUNTS IN THOUSANDS)

PWC	TOTAL ACTIVITIES	CUM AMT 1ST QTR 1975	CUM AMT 1ST QTR 197T	VARIANCE
	PERCENT FUEL OIL OF TOTAL	30	16	14
8200	FUEL OIL COST	5,613	3,123	2,490
8210	ELECTRICITY COST	10,802	14,180	-3,378
8220	COAL COST	0	0	0
8230	NATURAL GAS COST	2,100	2,239	-139
8240	PROPANE COST	55	140	-85
8260	TOTAL FUEL COST	18,726	19,951	-1,225

SAMPLE 3
MESSAGES OUTPUT TO UNIT 15

```
****FPD001***** SYMBOL TABLE STORAGE BEGUN
****FPD001*****159 ACTIVITY NAMES, UICS, KEYS
*****FPD001***** 52 FPD ACCOUNT SYMBOLS, NAMES
****FPD001***** SYMBOL TABLE STORAGE COMPLETE

*****COMPIL***** REPORTYPE=!5                                  ;REPORT TYPE LINE
 ****FPDREP***** REPORT #    1, REPORT TYPE  5
*****COMPIL***** WIDTH=!09                                     ;PARAMETER LINES
*****COMPIL***** COLUMNS=!03
 ****COMPIL***** LINES=!4
 ****COMPIL***** LINCOUNT=!00
*****COMPIL***** MAXLINES=!66
 ****COMPIL***** ACCURACY=!0
 ****COMPIL***** SCALE =!1000
*****COMPIL***** PAGE=!00
*****COMPIL***** OUTPUT=!14
 ****COMPIL***** COMMAND=!9
*****COMPIL***** ACTIVITY=!20
*****COMPIL***** THIR=!1
 ****COMPIL***** SPACING=!01
 ****COMPIL***** YEAR=!0
*****COMPIL***** MONTH=!03
 ****COMPIL***** ************
 ****RDPARM***** PARAMETER SPECIFICATION ERROR
           YEAR  ALLOWED MINIMUM=              75
                 ALLOWED MAXIMUM=              85
                 SPECIFIED VALUE=               0
   STANDARD DEFAULT,   76, USED, EXECUTION CONTINUING
*****GETDAT***** NRG 7503    FY75    SEP     C
 ****GETDAT***** NRG 7T03    FY7T    SEP     C
 ****COMPIL***** C1=A                                          ;COLUMN SPECIFICATIONS
*****COMPIL***** C2=B
 ****COMPIL***** C3=A-B
 ****RDTITL***** CUM@AMT@1ST QTR@1975@                          ;COLUMN TITLES
*****RDTITL***** CUM@AMT@1ST QTR@197T@
*****RDTITL***** @ @ @VARIANCE
 ****COMPIL***** DD=8200/8260*!100  'PERCENT FUEL OIL OF TOTAL'


****FPDREP***** END OF REPORT PROCESSING
```

SAMPLE 4
INPUT FILE FOR TYPE 11 REPORT

```
REPORTYPE=!11
OUTPUT=!14                              ;SEND THE REPORT TO L.U. 14
COLUMNS=!04
LINES=!03                               ;3 LINES IN COLUMN TITLES
ACCURACY=!03                            ;3 DECIMAL PLACES
SCALE =!1000                            ;NUMBERS IN THOUSANDS
PAGE=!0
COMMAND=!02                             ;ALL ORGANIZATIONS IN DIVISION 2
WIDTH=!8
SPACING=!01                             ;SINGLE SPACE
YEAR=!78
MONTH=!07
STUB=!9                                 ;ROW LABELS UP TO 36 CHARS.
************
SAMPLE OF TYPE 11
NRG 7703C
NRG 7612C
NRG 7512C
0999                                    ;INDICATES END OF GIVEN TIME PERIODS
C1=A
C2=C
COL3=B
VAR=A-B
@30 DEC@1976@
@30 JUN@1975@
@30 JUN@1976@
@COST VAR@C1-C3@
COMP
8200/8205 'FUEL OIL COST/MBTU'
0999
```

SAMPLE 4
REPORT GENERATED BY
TYPE 11 INPUT FILE

DATE:04/10/78 PAGE 1
NCD-5 REPORT GENERATOR
SAMPLE OF TYPE 11
FOR PERIOD ENDING 30 APRIL 1978
(AMOUNTS IN THOUSANDS)

FUEL OIL COST/MBTU	30 DEC 1976	30 JUN 1975	30 JUN 1976	COST VAR C1-C3
NARMC PENSACOLA	19.200	0.000	30.049	-10.849
NTTC PENSACOLA	9.138	0.000	7.117	2.021
PWC PENSACOLA, HSG	0.000	0.000	0.255	-0.255
PWC PENSCACOLA, CONS	0.172	0.000	0.077	0.095
NARF PENSACOLA	12.319	0.000	17.552	-5.233
NETPDC ELLYSON FIELD	0.000	0.000	0.000	0.000
NRDC PENSACOLA	0.041	0.000	0.034	0.007
NAS PENSACOLA	12.036	0.000	8.764	3.272
PWC PENSACOLA, HSG	0.412	0.000	0.000	0.412
PWC PENSACOLA, SHIP	0.237	0.000	0.220	0.017
PWC PENSACOLA, PERF	53.555	0.000	64.068	-10.513

SAMPLE 4
MESSAGES OUTPUT TO UNIT 15

```
*****FPD001***** SYMBOL TABLE STORAGE BEGUN
 ****FPD001*****159 ACTIVITY NAMES, UICS, KEYS
*****FPD001***** 52 FPD ACCOUNT SYMBOLS, NAMES
*****FPD001***** SYMBOL TABLE STORAGE COMPLETE

*****COMPIL***** REPORTYPE=!11
 ****FPDREP***** REPORT #    1, REPORT TYPE 11
 ****COMPIL***** OUTPUT=!14                          ;SEND THE REPORT TO L.U.
*****COMPIL***** COLUMNS=!04
*****COMPIL***** LINES=!03                           ;3 LINES IN COLUMN TITLE
 ****COMPIL***** ACCURACY=!03                        ;3 DECIMAL PLACES
*****COMPIL***** SCALE =!1000                        ;NUMBERS IN THOUSANDS
*****COMPIL***** PAGE=!0
 ****COMPIL***** COMMAND=!02                         ;ALL ORGANIZATIONS IN DI
 ****COMPIL***** WIDTH=!8
*****COMPIL***** SPACING=!01                         ;SINGLE SPACE
*****COMPIL***** YEAR=!78
 ****COMPIL***** MONTH=!07
*****COMPIL***** STUB=!9                            ;ROW LABELS UP TO 36 CHAR
*****COMPIL***** ************
 ****GETDAT***** NRG 7703    FY77    SEP     C
*****GETDAT***** NRG 7612    FY76    JUN     C
*****GETDAT***** NRG 7512    FY75    JUN     C
 ****COMPIL***** C1=A
 ****COMPIL***** C2=C
*****COMPIL***** COL3=B
*****COMPIL***** VAR=A-B
 ****RDTITL***** @30 DEC@1976@
*****RDTITL***** @30 JUN@1975@
*****RDTITL***** @30 JUN@1976@
 ****RDTITL***** @COST VAR@C1-C3@
 ****COMPIL***** 8200/8205 'FUEL OIL COST/MBTU'

*****FPDREP***** END OF REPORT PROCESSING
```

DEVELOPMENT OF MINIGAP INPUT FILE

The following questions should be answered before attempting to develop an input file for a report:

1. What report type is desired (2, 4, 5 or 11)? See "Structure of Report Requests" to determine which report type to use.

2. What time period/s is/are involved? This is specific to your data.

3. What organization is/are involved? This is specific to your data. (See "Parameters," Level 1, Level 2 and Level 3, and determine what values these parameters should contain.)

4. What account/s is/are involved? This is specific to your data.

5. Are any computations necessary? If so, what are they?

Now, you are ready to create a MINIGAP input file. Consult "Structure of Report Requests" to determine the line types necessary, and their order, for the chosen report type. Consult "Parameters" to decide which, if any, parameters are necessary, and what values they should be assigned. Consult "Syntactical Requirements" to determine the exact format to be used for each line type.

It may also be helpful to check the sample input file for the desired report type, in the last section, "Samples".

INDEX

INDEX, cont.