```
* make some test data.
SET SEED = 4321.

DATA LIST LIST /ID Age Region Income1 Income2 Income3.
BEGIN DATA
1 27 1 35500 42700 40250
2 34 2 72300 75420 81000
3 50 1 85400 82900 84350
4 27 1 35500 42700 40250
5 27 1 35500 42700 40250
6 34 2 72300 75420 81000
7 34 2 72300 75420 81000
8 34 2 72300 75420 81000
9 50 1 85400 82900 84350
END DATA.

COMPUTE AvgIncome=MEAN(Income1, Income2, Income3).
COMPUTE MaxIncome=MAX(Income1, Income2, Income3).
COMPUTE AGE2 = AGE.
COMPUTE AGE3 = AGE.
DO REPEAT #X = SEX V1 TO V3.
COMPUTE #X = RND(UNIFORM(1)).
END REPEAT PRINT.

1017  0 +COMPUTE      SEX = RND(UNIFORM(1))
1018  0 +COMPUTE      V1 = RND(UNIFORM(1))
1019  0 +COMPUTE      V2 = RND(UNIFORM(1))
1020  0 +COMPUTE      V3 = RND(UNIFORM(1))

IF ( MOD($casenum, 2) EQ 0 ) income3 = $sysmis.
COMPUTE someDate = DATE.DMY(21, 12, 2012).  /* dooms day ;-).

**********.
* Below are the various Spss dictionary items, in the order in which they
* appear in the Header class and the SavWriter constructor.

**********.
STRING aShortStringVar (a1) aLongStringVar (A100).
COMPUTE aShortStringVar = "x".
IF ( MOD($casenum, 2) EQ 0 ) aShortStringVar = "y".
COMPUTE aLongStringVar = "qwertyuiopasdfghjklzxcvbnm,./".

**********.
VALUE LABELS age 27 '27 y.o. ' 34 '34 y.o.' 50 '50 y.o.'
 / aShortStringVar 'x' 'someValue label'.

**********.

VARIABLE LABEL age 'How old are you?'
 / region 'What region do you live'
 / aShortStringVar 'Some mysterious short stringVar'
 / aLongStringVar  'Some mysterious long stringVar'.

**********.
FORMATS id (N6) age (F3)  someDate (ADATE40).
```

**********.
MISSING VALUES income1 (LO THRU -1).   /* range (lower, upper).
MISSING VALUES income2 (LO THRU -1, 999). /* range + value.
MISSING VALUES income3 (999, 888, 777).   /* thee values.
MISSING VALUES age (0 THRU 18).
MISSING VALUES aShortStringVar ("x", "y").

**********.
VARIABLE LEVEL sex (NOMINAL) income1 (SCALE).

**********.
VARIABLE WIDTH ID Age Region (10) Income1 Income2 (14) Income3 (15) someDate (13).

**********.
VARIABLE ALIGNMENT ID Age Region (left) Income1 Income2 (right) Income3 (center).

**********.
* Variable Sets are only visible in the user interface dialog boxes and the Data Editor. They cannot be used in
 syntax .
* I added two sets (1) incomes --> Income1 Income2 Income3 (2) ages --> age, age2.

**********.
VARIABLE ROLE /INPUT age /TARGET income1 income2 income3 /PARTITION region.

**********.
VARIABLE ATTRIBUTE
 VARIABLES = AvgIncome
  ATTRIBUTE = Formula('mean(Income1, Income2, Income3)') /
 VARIABLES = MaxIncome
  ATTRIBUTE = Formula('max(Income1, Income2, Income3)') /
 VARIABLES = AvgIncome MaxIncome
  ATTRIBUTE = DerivedFrom[1]('Income1')
             DerivedFrom[2]('Income2')
             DerivedFrom[3]('Income3') /
 VARIABLES = ALL ATTRIBUTE=Notes('').
DISPLAY ATTRIBUTES.

File Information

Notes

Output Created		21-DEC-2012 11:43:17
Comments		
Input	Filter	<none>
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	9
Syntax		DISPLAY ATTRIBUTES.
Resources	Processor Time	00:00:00,00
	Elapsed Time	00:00:00,00

Variable Attributes

ID	Notes	
How old are you?	Notes	
What region do you live	Notes	
Income1	Notes	
Income2	Notes	
Income3	Notes	
AvgIncome	DerivedFrom[1]	Income1
	DerivedFrom[2]	Income2
	DerivedFrom[3]	Income3
	Formula	mean(Income1, Income2, Income3)
	Notes	
MaxIncome	DerivedFrom[1]	Income1
	DerivedFrom[2]	Income2
	DerivedFrom[3]	Income3
	Formula	max(Income1, Income2, Income3)
	Notes	
AGE2	Notes	
AGE3	Notes	
SEX	Notes	
V1	Notes	
V2	Notes	
V3	Notes	
someDate	Notes	
Some mysterious short stringVar	Notes	
Some mysterious long stringVar	Notes	

Datafile Attributes

$VariableView2[01]	name
$VariableView2[02]	type
$VariableView2[03]	width
$VariableView2[04]	decimals
$VariableView2[05]	label
$VariableView2[06]	values
$VariableView2[07]	missing
$VariableView2[08]	columns
$VariableView2[09]	alignment
$VariableView2[10]	measure
$VariableView2[11]	role
$VariableView2[12]	@Formula
$VariableView2[13]	@DerivedFrom
$VariableView2[14]	@Notes

**********.
DATAFILE ATTRIBUTE ATTRIBUTE=VersionNumber ('1').

**********.
FILE LABEL "This is a file label".

COMPUTE weightVar = 1.
WEIGHT BY weightVar.

**********.
** Multiple response sets.
* category groups.
MRSETS
/MCGROUP NAME=$incomes
LABEL='three kinds of income'
VARIABLES=Income1 Income2 Income3
/DISPLAY NAME=[$incomes].

Multiple Response Set

Notes

Output Created		21-DEC-2012 11:43:17
Comments		
Input	File Label	This is a file label
	Filter	<none>
	Weight	weightVar
	Split File	<none>
	N of Rows in Working Data File	9
Syntax		MRSETS /MCGROUP NAME=$incomes LABEL='three kinds of income' VARIABLES=Income1 Income2 Income3 /DISPLAY NAME= [$incomes].
Resources	Processor Time	00:00:00,00
	Elapsed Time	00:00:00,00

Multiple Response Sets

Name	Label	Coded As	Counted Value	Data Type	Elementary Variables
$incomes	three kinds of income	Categories	N/A	Numeric	Income1 Income2 Income3

* dichotomy groups.
MRSETS
 /MDGROUP NAME=$V CATEGORYLABELS=VARLABELS VARIABLES=v1 v2 v3 VALUE=1
 /DISPLAY NAME=[$V].

Multiple Response Set

Notes

Output Created		21-DEC-2012 11:43:17
Comments		
Input	File Label	This is a file label
	Filter	<none>
	Weight	weightVar
	Split File	<none>
	N of Rows in Working Data File	9
Syntax		MRSETS /MDGROUP NAME=$V CATEGORYLABELS=VARLABELS VARIABLES=v1 v2 v3 VALUE=1 /DISPLAY NAME=[$V].
Resources	Processor Time	00:00:00,02
	Elapsed Time	00:00:00,02

Multiple Response Sets

Name	Coded As	Counted Value	Data Type	Elementary Variables
$V	Dichotomies	1	Numeric	V1 V2 V3

```
CTABLES
 /VLABELS VARIABLES=sex $V DISPLAY=DEFAULT
 /TABLE $V [COUNT F40.0, COLPCT.COUNT PCT40.1, COLPCT.TOTALN PCT40.1] BY sex
 /CATEGORIES VARIABLES=sex ORDER=A KEY=VALUE EMPTY=EXCLUDE
 /CATEGORIES VARIABLES=$V  EMPTY=INCLUDE TOTAL=YES POSITION=AFTER.
```

Custom Tables

Notes

Output Created		21-DEC-2012 11:43:18
Comments		
Input	File Label	This is a file label
	Filter	<none>
	Weight	weightVar
	Split File	<none>
	N of Rows in Working Data File	9
Syntax		CTABLES /VLABELS VARIABLES=sex $V DISPLAY=DEFAULT /TABLE $V [COUNT F40.0, COLPCT.COUNT PCT40.1, COLPCT. TOTALN PCT40.1] BY sex /CATEGORIES VARIABLES=sex ORDER=A KEY=VALUE EMPTY=EXCLUDE /CATEGORIES VARIABLES=$V EMPTY=INCLUDE TOTAL=YES POSITION=AFTER.
Resources	Processor Time	00:00:00,02
	Elapsed Time	00:00:00,02

		SEX					
		,00			1,00		
		Count	Column N %	Column Total N %	Count	Column N %	Column Total N %
$V	V1	2	100,0%	50,0%	2	50,0%	40,0%
	V2	1	50,0%	25,0%	4	100,0%	80,0%
	V3	2	100,0%	50,0%	2	50,0%	40,0%
	Total	2	100,0%	100,0%	4	100,0%	100,0%

** category groups.
MRSETS
 /MCGROUP NAME=$incomes LABEL='three kinds of income' VARIABLES=Income1
 Income2 Income3 Age AGE2 AGE3
 /MCGROUP NAME=$ages LABEL='the ages' VARIABLES=Age AGE2 AGE3
 /DISPLAY NAME=[$incomes $ages].

Multiple Response Set

Notes

Output Created		21-DEC-2012 11:43:18
Comments		
Input	File Label	This is a file label
	Filter	<none>
	Weight	weightVar
	Split File	<none>
	N of Rows in Working Data File	9

Syntax		MRSETS
		  /MCGROUP NAME=$incomes LABEL='three kinds of income' VARIABLES=Income1 Income2 Income3 Age AGE2 AGE3
		  /MCGROUP NAME=$ages LABEL='the ages' VARIABLES=Age AGE2 AGE3
		  /DISPLAY NAME= [$incomes $ages].

Resources	Processor Time	00:00:00,00
	Elapsed Time	00:00:00,00

Multiple Response Sets

Name	Label	Coded As	Counted Value	Data Type	Elementary Variables
$ages	the ages	Categories	N/A	Numeric	How old are you? AGE2 AGE3
$incomes	three kinds of income	Categories	N/A	Numeric	Income1 Income2 Income3 How old are you? AGE2 AGE3

CTABLES
 /VLABELS VARIABLES=SEX $ages DISPLAY=DEFAULT
 /TABLE $ages [COUNT F40.0] BY SEX
 /CATEGORIES VARIABLES=SEX $ages ORDER=A KEY=VALUE EMPTY=EXCLUDE.

Custom Tables

Notes

Output Created		21-DEC-2012 11:43:18
Comments		
Input	File Label	This is a file label
	Filter	<none>
	Weight	weightVar
	Split File	<none>
	N of Rows in Working Data File	9

Syntax		CTABLES
		  /VLABELS VARIABLES=SEX $ages DISPLAY=DEFAULT
		  /TABLE $ages [COUNT F40.0] BY SEX
		  /CATEGORIES VARIABLES=SEX $ages ORDER=A KEY=VALUE EMPTY=EXCLUDE.

Resources	Processor Time	00:00:00,00
	Elapsed Time	00:00:00,00

		SEX	
		,00	1,00
		Count	Count
the ages	27 y.o.	1	2
	34 y.o.	2	2
	50 y.o.	1	1

**********.
DATE YEAR 2012 QUARTER 4 4 MONTH 12 12.

The following new variables are being created:

  Name   Label

  YEAR_   YEAR, not periodic
  QUARTER_   QUARTER, period 4
  MONTH_   MONTH, period 12
  DATE_   Date. Format: "MMM YYYY"

* The following new variables are being created:.
* Name   Label.
* YEAR_   YEAR, not periodic.
* QUARTER_   QUARTER, period 4.
* MONTH_   MONTH, period 12.
* DATE_   Date. Format: "MMM YYYY".

**********.
* Add document.
ADD DOCUMENT "This is a an'add document' entry".
DISPLAY DOCUMENTS.

File Information

Notes

Output Created		21-DEC-2012 11:43:19
Comments		
Input	File Label	This is a file label
	Filter	<none>
	Weight	weightVar
	Split File	<none>
	N of Rows in Working Data File	9
Syntax		DISPLAY DOCUMENTS.
Resources	Processor Time	00:00:00,00
	Elapsed Time	00:00:00,00

Document

1[a]	This is a an'add document' entry

  a. Entered 21-Dec-2012

**********.
DISPLAY DICTIONARY.

File Information

Notes

Output Created		21-DEC-2012 11:43:19
Comments		
Input	File Label	This is a file label
	Filter	<none>
	Weight	weightVar
	Split File	<none>
	N of Rows in Working Data File	9
Syntax		DISPLAY DICTIONARY.
Resources	Processor Time	00:00:00,00
	Elapsed Time	00:00:00,00

Variable Information

Variable	Position	Label	Measurement Level	Role	Column Width	Alignment
ID	1	<none>	Nominal	Input	10	Left
Age	2	How old are you?	Scale	Input	10	Left
Region	3	What region do you live	Nominal	Partition	10	Left
Income1	4	<none>	Scale	Target	14	Right
Income2	5	<none>	Scale	Target	14	Right
Income3	6	<none>	Scale	Target	15	Center
AvgIncome	7	<none>	Scale	Input	11	Right
MaxIncome	8	<none>	Scale	Input	11	Right
AGE2	9	<none>	Scale	Input	10	Right
AGE3	10	<none>	Scale	Input	10	Right
SEX	11	<none>	Nominal	Input	10	Right
V1	12	<none>	Nominal	Input	10	Right
V2	13	<none>	Nominal	Input	10	Right
V3	14	<none>	Nominal	Input	10	Right
someDate	15	<none>	Scale	Input	13	Right
aShortStringVar	16	Some mysterious short stringVar	Nominal	Input	17	Left
aLongStringVar	17	Some mysterious long stringVar	Nominal	Input	26	Left
weightVar	18	<none>	Nominal	Input	11	Right
YEAR_	19	YEAR, not periodic	Ordinal	Input	10	Right

Variable Information

Variable	Position	Label	Measurement Level	Role	Column Width	Alignment
QUARTER_	20	QUARTER, period 4	Ordinal	Input	10	Right
MONTH_	21	MONTH, period 12	Ordinal	Input	8	Right
DATE_	22	Date. Format: "MMM YYYY"	Nominal	Input	10	Left

Variable Information

Variable	Print Format	Write Format	Missing Values
ID	N6	N6	
Age	F3	F3	0 through 18
Region	F8.2	F8.2	
Income1	F8.2	F8.2	Lowest through -1,00
Income2	F8.2	F8.2	Lowest through -1,00, and 999,00
Income3	F8.2	F8.2	999,00, 888,00, 777,00
AvgIncome	F8.2	F8.2	
MaxIncome	F8.2	F8.2	
AGE2	F8.2	F8.2	
AGE3	F8.2	F8.2	
SEX	F8.2	F8.2	
V1	F8.2	F8.2	
V2	F8.2	F8.2	
V3	F8.2	F8.2	
someDate	ADATE40	ADATE40	
aShortStringVar	A1	A1	"x", "y"
aLongStringVar	A100	A100	
weightVar	F8.2	F8.2	
YEAR_	F8	F8	

Variable Information

Variable	Print Format	Write Format	Missing Values
QUARTER_	F1	F1	
MONTH_	F2	F2	
DATE_	A8	A8	

Variables in the working file

Variable Values

Value		Label
Age	27	27 y.o.
	34	34 y.o.
	50	50 y.o.
aShortStringVar	x[a]	someValue label

a. Missing value

Variable Attributes

ID	Notes	
How old are you?	Notes	
What region do you live	Notes	
Income1	Notes	
Income2	Notes	
Income3	Notes	
AvgIncome	DerivedFrom[1]	Income1
	DerivedFrom[2]	Income2
	DerivedFrom[3]	Income3
	Formula	mean(Income1, Income2, Income3)
	Notes	
MaxIncome	DerivedFrom[1]	Income1
	DerivedFrom[2]	Income2
	DerivedFrom[3]	Income3
	Formula	max(Income1, Income2, Income3)
	Notes	
AGE2	Notes	
AGE3	Notes	
SEX	Notes	
V1	Notes	
V2	Notes	
V3	Notes	
someDate	Notes	

Variable Attributes

Some mysterious short stringVar	Notes	
Some mysterious long stringVar	Notes	

Datafile Attributes

$VariableView2[01]	name
$VariableView2[02]	type
$VariableView2[03]	width
$VariableView2[04]	decimals
$VariableView2[05]	label
$VariableView2[06]	values
$VariableView2[07]	missing
$VariableView2[08]	columns
$VariableView2[09]	alignment
$VariableView2[10]	measure
$VariableView2[11]	role
$VariableView2[12]	@Formula
$VariableView2[13]	@DerivedFrom
$VariableView2[14]	@Notes
VersionNumber	1

```
SAVE OUTFILE = "path/spssio_test.sav" / COMPRESSED.
OUTPUT SAVE OUTFILE = "path/spssio_test.spv".

OMSEND.
```