



Moving On Up



# Best Reporting Features

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# My Choices for Best “New” Features

- Dialogue Manager - Precision in Calculations
- Selection and Retrieval
  - MDI
  - Filters
  - Multi-Path
- Verb Objects
  - Dynamic Re-formatting
  - Distinct Processing
- Sorting
  - BY {HIGHEST} TOTAL
  - ACROSS field ACROSS-TOTAL
  - Summarization with ACROSS
- Inputs and Outputs
  - MORE



# Dialogue Manager



# SET DMPRECISION = OFF/n

- Dialogue Manager Variables are considered either Alphanumeric or Integer
- All Dialogue Manager Variables are STORED as Alphanumeric
- To differentiate between 0 (numeric) and blank(alphanumeric), use ASIS.
- If a variable contains only numbers and decimal point, it is:
  - Translated to double precision for a numeric calculation
- Before 7.6, the output was then translated back to Alphanumeric assuming an integer value
- 7.6

**SET DMPRECISION = OFF/n**

**where n is number of decimal places (0 – 9).**

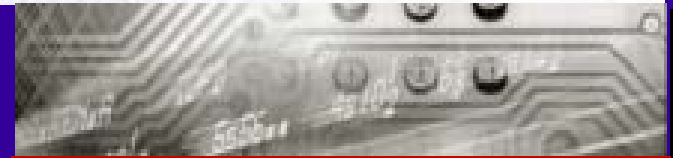
# Expressions

-SET &VAR = expression;

Expression	DMPRECISION <b>OFF</b>	DMPRECISION <b>0</b>	DMPRECISION <b>3</b>
45/100	0	0	.450
95/100	0	1	.950
105/100	1	1	1.050
.4 * 100	39	40	40.000
10 / 3	3	3	3.333
10/ 6	1	2	1.667



## Selection and Retrieval



## MASTER

```
FILENAME=GGSales, SUFFIX=XFOC,  
ACCESS=GGSales,$  
SEGNAME=SALES01, SEGTYPE=S1  
FIELD=SEQ_NO, ALIAS=SEQ, FORMAT=I6, TITLE='SEQUENCE#', $  
FIELD=CATEGORY, ALIAS=E02, FORMAT=A11, INDEX=I,  
TITLE='Category', $  
FIELD=PCD, ALIAS=E03, FORMAT=A04,INDEX=I, TITLE='Product ID', $  
FIELD=PRODUCT, ALIAS=E04, FORMAT=A16, TITLE='Product',$  
FIELD=REGION, ALIAS=E05, FORMAT=A11,INDEX=I, TITLE='Region', $  
FIELD=ST, ALIAS=E06, FORMAT=A02, INDEX=I, TITLE='State', $  
FIELD=CITY, ALIAS=E07, FORMAT=A20, TITLE='City', DESC='City',$  
FIELD=STCD, ALIAS=E08, FORMAT=A05, INDEX=I,TITLE='Store ID', $  
FIELD=DATE, ALIAS=E09, FORMAT=I8YYMD, TITLE='Date', $
```

# Multi-Dimensional Index Request

```
TABLE FILE GGSALES
PRINT * BY REGION BY ST
WHERE REGION EQ 'Northeast'
WHERE DATE EQ '19920501'
WHERE ST EQ 'NY'
WHERE PRODUCT EQ 'Capuccino`
END
```

270,000 RECORDS

AUTOINDEX	YES (REGION)	GGMDI
RECORDS	3	3
BASEIO	1682	41
FOCCPU	434	293
INDEXIO	0	71

# Multi-Dimensional Index

## Access File

```
MASTER=GGSALES , $
DATA = PMSNMR.GGSLS2K.FOCUS ,
  WHERE = DATE FROM 2000101 TO 20091231, $
DATA = PMSNMR.GGSALES.FOCUS ,
  WHERE = DATE FROM 1990101 TO 19991231, $
MDI=GGMDI, TARGET_OF=SALES01 , $
DIM=CATEGORY , MAXVALUE = 100, $
DIM=PCD , MAXVALUE = 50,
  WITHIN=CATEGORY, $
DIM=REGION , MAXVALUE = 20, $
DIM=ST , MAXVALUE = 20, WITHIN=REGION
  , $
DIM=CITY , MAXVALUE = 20, WITHIN = ST, $
DIM=STCD , MAXVALUE = 20, WITHIN=CITY , $
DIM=DATE , MAXVALUE = 240, $
MDIDATA= PMSNMR.GGMDI1.FOCUS , $
MDIDATA= PMSNMR.GGMDI2.FOCUS
```

# Filters – Automatic WHERE



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# Filters

## PROFILE.FEX or EDASPROF

```
FILTER FILE CAR
NAME=ENG1, WHERE COUNTRY EQ 'ENGLAND'
NAME=FRA1, WHERE COUNTRY EQ 'FRANCE'
NAME=EUR1, WHERE COUNTRY NE 'JAPAN'
NAME=ERR1, WHERE RCOST GT DCOST
END
-RUN
SET FILTER = * IN CAR OFF
-SET &WHO=GETUSER('A8');
-SET &PSS = IF &WHO EQ 'INTLON' THEN 'ENG1' ELSE
-   IF &WHO EQ 'INTFRA' THEN 'FRA1' ELSE ' ' ;
-IF &PSS EQ ' ' GOTO THEEND;
SET FILTER = &PSS IN CAR ON
-THEEND EXIT
```

# Filters



## INTXXX

COUNTRY	CAR	RETAIL_COST
-----	---	-----
ENGLAND	JAGUAR	22,369
	JENSEN	17,850
	TRIUMPH	5,100
FRANCE	PEUGEOT	5,610
ITALY	ALFA ROMEO	19,565
	MASERATI	31,500
	...	

## INTFRA ACCESS LIMITED BY PASSWORD

COUNTRY	CAR	RETAIL_COST
-----	---	-----
FRANCE	PEUGEOT	5,610

# Multiple Paths



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# Multiple Paths



- SET MULTIPATH = SIMPLE
  - Default in FOCUS for S/390
  - FOC144 – Warning, testing in independent Sets
  - Acceptable lines pass tests in EITHER path
  - Workarounds are alternate view (to make single path) or Count with WHERE TOTAL tests
- SET MULTIPATH = COMPOUND
  - Default in WEBFOCUS/EDA
  - Acceptable lines pass tests in ALL paths

# FOC144 – Testing on Independent Sets

```
SET MULTIPATH = SIMPLE
TABLE FILE CAR
WRITE BODYTYPE STANDARD BY CAR
WHERE BODYTYPE EQ 'SEDAN'
WHERE STANDARD CONTAINS 'FRONT WHEEL'
END
```

CAR	BODYTYPE	STANDARD
---	-----	-----
ALFA ROMEO	SEDAN	.
AUDI	SEDAN	FRONT WHEEL DRIVE
BMW	SEDAN	.
DATSUN	SEDAN	.
JAGUAR	SEDAN	.
JENSEN	SEDAN	.
PEUGEOT	SEDAN	.
TOYOTA	SEDAN	.

# New -- MULTIPATH

```
SET MULTIPATH = COMPOUND
TABLE FILE CAR
WRITE BODYTYPE STANDARD BY CAR
WHERE BODYTYPE EQ 'SEDAN'
WHERE STANDARD CONTAINS 'FRONT WHEEL'
END
```

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CAR	BODYTYPE	STANDARD
---	-----	-----
AUDI	SEDAN	FRONT WHEEL DRIVE



# Verb Objects



# Distinct (DST.)

- Distinct Values of a field may be displayed or counted using prefix DST..

```
TABLE FILE CAR
SUM CNT.DST.BODYTYPE NOPRINT CNT.BODYTYPE  NOPRINT
ON TABLE SUBFOOT
"DISTINCT NUMBER OF BODYTYPE IS <CNT.DST.BODYTYPE "
"COUNT OF BODYTYPE IS           <CNT.BODYTYPE  "
END
```

```
DISTINCT NUMBER OF BODYTYPE IS           5
COUNT OF BODYTYPE IS                   18
```

# Field Formatting



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# Field-Based Reformatting

```
DEFINE FILE CAR
CFORMAT/A8 = DECODE COUNTRY('ENGLAND' 'F10.1' 'FRANCE' 'D10'
                             'ITALY' 'P10.2' 'JAPAN' 'I9' ELSE 'D10.2M');
END
TABLE FILE CAR
SUM RCOST/F5 DEALER_COST/CFORMAT
BY COUNTRY
END
```

<u>COUNTRY</u>	<u>RCOST</u>	<u>DEALER_COST</u>
ENGLAND	32485	37853.0
FRANCE	3721	4,631
ITALY	39999	41235.00
JAPAN	5299	5512
W GERMANY	51895	\$54,563.00

# Sorting by Aggregation



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# FOCUS Release 7.1.1 New Features

## BY TOTAL

- TABLE can sort by aggregated columns all in one pass.
  - Works for prefixes like AVE., MAX., PCT.
- No need for intermediate HOLD
  - Cuts down I/O, CPU and disk space used
- Sorting after aggregation is done by a post-matrix process, similar to WHERE TOTAL and COMPUTE
- Full Syntax:  
BY [HIGHEST/LOWEST n] TOTAL columnname

# BY TOTAL

```
TABLE FILE CAR
SUM SALES AVE.SALES
BY HIGHEST TOTAL AVE.SALES NOPRINT
BY COUNTRY
END
```

COUNTRY	SALES	AVE SALES
-----	-----	-----
JAPAN	78030	39015
W GERMANY	88190	12598
ITALY	30200	7550
ENGLAND	12000	3000
FRANCE	0	0

# ACROSS-TOTAL

## Roll-ups for ACROSS



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# ACROSS-TOTAL



- Totals numeric values **WITHIN** a particular Sort Phrase only
- Numeric fields from other verbs are not included
- Numeric fields from other **ACROSS** sets are not included
- Maximum number of **ACROSS-TOTAL** permitted is 5

SYNTAX:

**ACROSS [HIGHEST] field ACROSS-TOTAL**

**[COLUMNS value AND value ...]**

# ACROSS-TOTAL



```
DEFINE FILE STUDENT

XSTAT/A6  = IF TYPE_STAT EQ 'LIVE' OR 'WEB' THEN 'ENROLL' ELSE
           IF TYPE_STAT EQ 'RES' OR 'CLOS' THEN 'FINISH' ELSE ' ';

END

TABLE FILE STUDENT

" REPORT RUN BY &FOCUSER "

SUM BASE_NUMBER/I5 AS '#'

  BY MAJOR AS MAJOR

ACROSS XSTAT ACROSS-TOTAL AS GRAND

ACROSS TYPE_STAT ACROSS-TOTAL AS TYPTOT

IF XSTAT NE ' '

ON TABLE COLUMN-TOTAL
```

END



# ACROSS-TOTAL

REPORT RUN BY CSSNMR

MAJOR	XSTAT ENROLL			FINISH			GRAND	
	TYPE_STAT		TYPTOT	CLOS	RES	TYPTOT	#	#
	LIVE	WEB						
#	#	#	#	#	#	#	#	
DISPATCH	99	2645	2744	799	3	802	3546	
EDA	342	13157	13499	3490	1671	5161	18660	
INFORESP	.	118	118	40	3	43	161	
MF	2185	15275	17460	3860	1478	5338	22798	
MICRO	1962	11530	13492	3329	790	4119	17611	
STG	13	338	351	171	.	171	522	
WEB	2931	23617	26548	6121	2118	8239	34787	
TOTAL	7532	66680	74212	17810	6063	23873	98085	

# Summarization with ACROSS – 7.6

```
DEFINE FILE CAR
XBODYTYPE/A12 = IF BODYTYPE EQ 'SEDAN' THEN 'SEDAN'
ELSE 'OTHERS';
END
TABLE FILE CAR
SUM R COST
OVER D COST
OVER COMPUTE
      PCTUP/F5.2% = (R COST - D COST) / R COST * 100;
BY COUNTRY SKIP-LINE
ACROSS HIGHEST XBODYTYPE AS BODYTYPE
ON XBODYTYPE SUMMARIZE
END
```

# Summarization with ACROSS – 7.6

COUNTRY	BODYTYPE		TOTAL	
	SEDAN	OTHERS		
ENGLAND	RETAIL_COST	31,341	13,978	45,319
	DEALER_COST	26,134	11,719	37,853
	PCTUP	16.61%	16.16%	16.47%
FRANCE	RETAIL_COST	5,610	.	5,610
	DEALER_COST	4,631	.	4,631
	PCTUP	17.45%	.	17.45%
ITALY	RETAIL_COST	5,925	45,140	51,065
	DEALER_COST	4,915	36,320	41,235
	PCTUP	17.05%	19.54%	19.25%

# Outputs




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# MORE

```
DEFINE FILE 1999FI
DATE/YYMD DFC 19 YRT 50 = DATE1;
SALARY/P12.2 = CSAL;
END
DEFINE FILE 2000FI
DEPT/A10 = DEPARTMENT;
EMP_ID/A9 = EID;
END
TABLE FILE 1999FI
SUM SALARY BY DEPT BY EID ACROSS DATE
WHERE DATE FROM '19990501'
MORE
      FILE 2000FI
MORE
      FILE 2001FI
MORE
      FILE 2002FI
WHERE DATE LE '20020430'
END
```



# FOCUS in the 21<sup>st</sup> Century It's Not Your Mother's FOCUS



Thank You !