

Tips and Techniques From the FOCWIZARDS

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FOCWIZARDS
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Techniques

- Show a Minimums and Maximums in a HEADING
- Vary a HEADING based upon a COMPUTE
- Total Count at the bottom of a report
- Display SUBTOTALs BEFORE the details
- Weighted Average vs. Average of Averages
- Compare Detail Information with Averages.
- Base calculations on different aggregate information
- Across Total / Across Sub-total?

The Power of WITHIN

WITHIN byfield

TABLE FILE CAR

PRINT SEATS

SUM.SEATS **WITHIN COUNTRY** AS 'SEATS,WITHIN,COUNTRY'

BY COUNTRY BY BODYTYPE

END

COUNTRY	BODYTYPE	SEATS	SEATS WITHIN COUNTRY
-----	-----	-----	-----
ENGLAND	CONVERTIBLE	2	13
	HARDTOP	2	13
	SEDAN	5	13
		4	13
FRANCE	SEDAN	5	5
ITALY	COUPE	2	10
		2	10
	ROADSTER	2	10
	SEDAN	4	10

WITHIN byfield WITHIN across_field

```
TABLE FILE CAR
SUM    RETAIL_COST
      RETAIL_COST WITHIN COUNTRY WITHIN SEATS
      AS 'RCOST,WITHIN,COUNTRY,SEATS'
BY COUNTRY FOLD-LINE BY BODYTYPE ACROSS SEATS
WHERE SEATS LE 4
END
```

	2		4	
COUNTRY		RCOST		RCOST
-----		WITHIN		WITHIN
BODYTYPE	RETAIL_COST	COUNTRY	RETAIL_COST	COUNTRY
		SEATS	SEATS	SEATS
-----	-----	-----	-----	-----
ITALY				
COUPE	38,320	45,140	.	.
ROADSTER	6,820	45,140	.	.
SEDAN	.	.	5,925	5,925

WITHIN TABLE WITHIN across_field

```
TABLE FILE CAR
SUM    RETAIL_COST
      RETAIL_COST WITHIN TABLE WITHIN SEATS
      AS 'RCOST,WITHIN, TABLE, SEATS'
BY COUNTRY FOLD-LINE BY BODYTYPE ACROSS SEATS
WHERE SEATS LE 4
END
```

COUNTRY	2	RCOST WITHIN TABLE SEATS	4	RCOST WITHIN TABLE SEATS

BODYTYPE	RETAIL_COST	SEATS	RETAIL_COST	SEATS
-----	-----	-----	-----	-----
ITALY				
COUPE	38,320	50,240	.	.
ROADSTER	6,820	50,240	.	.
SEDAN	.	.	5,925	45,486

Prefixes in Headings

Show Actual Minimums and Maximums in Heading

TABLE FILE GGSALES

SUM

MIN.DATE WITHIN TABLE NOPRINT

MAX.DATE WITHIN TABLE NOPRINT

UNITS/I9C BY REGION BY ST

HEADING

"REPORT OF SALES FROM <**MIN.DATE** TO <**MAX.DATE**"

"GOTHAM GRIMES CORPORATION "

WHERE DATE FROM '20010101' TO '20991231'

END

Prefixes in Headings

REPORT OF SALES FROM 2001/01/01 TO 2008/05/01 GOTHAM GRIMES CORPORATION

Region	State	Unit Sales
-----	-----	-----
Midwest	IL	9,579,037
	MO	9,271,267
	TX	9,254,511
Northeast	CT	9,411,236
	MA	9,410,282
	NY	9,758,502
Southeast	FL	9,689,651
	GA	10,288,064
	TN	9,218,457
West	CA	19,074,866
	WA	10,083,198

Vary Heading Based on "Subtotal"

```
JOIN PIN IN EMPDATA TO PIN IN QUOTA AS AJ
JOIN PIN IN EMPDATA TO ALL PIN IN SALES AS BJ
TABLE FILE EMPDATA
SUM SALES WITHIN DIV NOPRINT QUOTA WITHIN DIV
NOPRINT COMPUTE
    HDNG/A13 = IF C1 GT C2 THEN 'EXCEEDED ' ELSE
                IF C1 EQ C2 THEN 'MET ' ELSE
                'DID NOT MEET '; NOPRINT
    SALES QUOTA
BY DIV NOPRINT PAGE-BREAK BY PIN NOPRINT BY
LASTNAME
ON DIV PAGE-BREAK
HEADING
"DIVISION: <DIV "
"SALES FOR THE DIVISION <HDNG QUOTA </1 "
END
```

Vary Heading based on "Subtotal"

DIVISION: CE

SALES FOR THE DIVISION EXCEEDED QUOTA

LASTNAME	SALES	QUOTA
----------	-------	-------

ADAM DIVISION: CORP

ADD SALES FOR THE DIVISION DID NOT MEET QUOTA

GORI

LASTNAME	SALES	QUOTA
----------	-------	-------

KASL

CON VALINO	32,694.18	69,375.00
------------	-----------	-----------

ROS SANCHEZ	257,779.92	103,750.00
-------------	------------	------------

PUM ANDERSON	25,124.96	40,500.00
--------------	-----------	-----------

CHI CVEK	42,668.09	78,125.00
----------	-----------	-----------

GRA SOPENA	70,599.09	98,750.00
------------	-----------	-----------

Use Subtotal in HEADING/SUBHEAD

```
JOIN CLEAR *
JOIN PIN IN EMPDATA TO PIN IN QUOTA AS AJ
JOIN PIN IN EMPDATA TO ALL PIN IN SALES AS BJ
DEFINE FILE EMPDATA
SALEST/D12.2 = SALES;
QUOTAT/D12.2 = QUOTA;
SALESD/D12.2 = SALES;
QUOTAD/D12.2 = QUOTA;
END
TABLE FILE EMPDATA
SUM SALEST WITHIN TABLE NOPRINT QUOTAT WITHIN TABLE NOPRINT
    COMPUTE HDNG1/A13 = IF SALEST GT QUOTAT THEN 'EXCEEDED '
ELSE
    IF SALEST EQ QUOTAT THEN 'MET ' ELSE
    'DID NOT MEET '; NOPRINT
COMPUTE SALE2T/D12.2 = SALEST; NOPRINT
COMPUTE QUOTAT2/D12.2 = QUOTAT; NOPRINT
```

Fields Used in HEADINGS become Verb Objects

```
SALESD WITHIN AREA NOPRINT QUOTAD WITHIN AREA NOPRINT
COMPUTE
    HDNG/A13 = IF SALESD GT QUOTAD THEN 'EXCEEDED ' ELSE
              IF SALESD EQ QUOTAD THEN 'MET ' ELSE
              'DID NOT MEET '; NOPRINT
COMPUTE SALE2D/D12.2 = SALESD; NOPRINT
COMPUTE QUOTAD2/D12.2 = QUOTAD; NOPRINT
SALES QUOTA COMPUTE FLAG/A1 = IF SALES GE QUOTA THEN 'Y'
ELSE 'N';
    AS 'MET/EXCEEDED,QUOTA'
BY AREA NOPRINT PAGE-BREAK BY PIN NOPRINT BY LASTNAME
ON AREA PAGE-BREAK
HEADING
"COMPANY SALES:  <SALE2T <HDNG1 QUOTA OF <QUOTAT2"
"</1 AREA:  <AREA "
"  <SALE2D <HDNG QUOTA OF <QUOTAD2 "
END
```

Uses

Subtotal in HEADING/SUBHEAD

COMPANY SALES: 2,905,453.71 EXCEEDED QUOTA OF 2,536,500.00

AREA: CENTRAL

893,575.54 EXCEEDED QUOTA OF 617,125.00

LASTNAME	SALES	QUOTA	MET / EXCEEDED QUOTA
-----	-----	-----	-----
ADAMS	72,736.19	78,125.00	N
ADDAMS	141,955.10	67,625.00	Y
GORDON	46,994.67	31,750.00	Y
LASTRA	166,162.94	143,750.00	Y
KASHMAN	61,395.45	41,625.00	Y
CONRAD	41,094.99	31,250.00	Y
ROSENTHAL	91,469.79	61,875.00	Y
PUMA	125,762.29	51,125.00	Y
CHISOLM	107,675.74	53,750.00	Y
GRAFF	38,328.38	56,250.00	N

Uses

Subtotal in HEADING/SUBHEAD

COMPANY SALES: 2,905,453.71 EXCEEDED QUOTA OF 2,536,500.00

AREA: CORPORATE

471,594.78 DID NOT MEET QUOTA OF 545,625.00

LASTNAME	SALES	QUOTA	MET/EXCEEDED QUOTA
-----	-----	-----	-----
VALINO	32,694.18	69,375.00	N
SANCHEZ	257,779.92	103,750.00	Y
ANDERSON	25,124.96	40,500.00	N
CVEK	42,668.09	78,125.00	N
SOPENA	70,599.09	98,750.00	N
DONATELLO	5,161.94	44,000.00	N
WANG	4,146.12	78,125.00	N
LOPEZ	33,420.48	33,000.00	Y
GRAFF	38,328.38	56,250.00	N

More Calculations

TABLE FILE EMPDATA

SUM

SALESD WITHIN AREA NOPRINT QUOTAD WITHIN AREA NOPRINT

COMPUTE DIVBONUS/D12.2 =

IF SALESD GT QUOTAD THEN (SALESD - QUOTAD) * .02

ELSE 0; NOPRINT

COMPUTE SALE2D/D12.2 = SALESD; NOPRINT

SALES QUOTA COMPUTE BONUS/D12.2 =

IF SALES GT QUOTA THEN (SALES - QUOTA) * .03 ELSE 0;

BY AREA NOPRINT PAGE-BREAK BY PIN NOPRINT BY LASTNAME

ON AREA PAGE-BREAK

ON AREA SUBHEAD

"MANAGER <SALE2D <DIVBONUS </1"

END

Calculations in SUBHEADS

PAGE 1

LASTNAME	SALES	QUOTA	BONUS
-----	-----	-----	-----
CENTRAL MANAGER	893,575.54		5,529.01
ADAMS	72,736.19	78,125.00	.00
ADDAMS	141,955.10	67,625.00	2,229.90
GORDON	46,994.67	31,750.00	457.34
LASTRA	166,162.94	143,750.00	672.39
KASHMAN	61,395.45	41,625.00	593.11
CONRAD	41,094.99	31,250.00	295.35
ROSENTHAL	91,469.79	61,875.00	887.84
PUMA	125,762.29	51,125.00	2,239.12
CHISOLM	107,675.74	53,750.00	1,617.77
GRAFF	38,328.38	56,250.00	.00

Calculations in SUBHEADs

PAGE 2

LASTNAME	SALES	QUOTA	BONUS
-----	-----	-----	-----
CORPORATE MANAGER	471,594.78		.00
VALINO	32,694.18	69,375.00	.00
SANCHEZ	257,779.92	103,750.00	4,620.90
ANDERSON	25,124.96	40,500.00	.00
CVEK	42,668.09	78,125.00	.00
SOPENA	70,599.09	98,750.00	.00
DONATELLO	5,161.94	44,000.00	.00
WANG	4,146.12	78,125.00	.00
LOPEZ	33,420.48	33,000.00	12.61

Comparing Levels of Summation

<u>DIV</u>	<u>PIN</u>	<u>SALARY</u>	<u>PCT1</u>
CE	000000040	\$62,500.00	26.60%
	000000050	\$54,100.00	9.58%
	000000180	\$25,400.00	-48.55%
	000000200	\$115,000.00	132.93%
	000000240	\$33,300.00	-32.55%
	000000250	\$25,000.00	-49.36%
	000000260	\$49,500.00	.26%
	000000290	\$40,900.00	-17.16%
	000000360	\$43,000.00	-12.90%
	000000390	\$45,000.00	-8.85%
CORP	000000010	\$55,500.00	1.72%
	000000070	\$83,000.00	52.12%
	000000100	\$32,400.00	-40.62%

Comparing Levels of Summation

TABLE FILE EMPDATA

PRINT

AVE.SALARY WITHIN DIV NOPRINT SALARY

COMPUTE PCT/F8.2% = (C2 - C1) / C1 * 100;

BY DIV BY PIN

ON TABLE NOTOTAL

ON TABLE SET STYLE *

UNITS=IN,

SQUEEZE=ON,

ORIENTATION=PORTRAIT,

\$

DEFMACRO=COND0001,

MACTYPE=RULE,

WHEN=N5 GT 100,

\$

DEFMACRO=COND0002,

MACTYPE=RULE,

WHEN=N5 LT -30,

```
TYPE=DATA,  
  COLUMN=N5,  
  COLOR='RED',  
  STYLE=BOLD,  
  MACRO=COND0002,
```

\$

```
TYPE=DATA,  
  COLUMN=N5,  
  COLOR=RGB(51 153 102),  
  STYLE=BOLD+UNDERLINE,  
  MACRO=COND0001,
```

\$

```
ENDSTYLE  
END
```

ACROSS and WITHIN

```
DEFINE FILE GGSALES
QTR/Q = DATE;
MONTH/M = DATE;
YEAR/YY = DATE;
DATE1/YYM = DATE;
HalfYear/I1 = IF QTR EQ 1 OR 2 THEN 1 ELSE 2;
QTR1/I1 = IF QTR EQ 1 OR 3 THEN 1 ELSE 2;
MONTH1/I1 =IMOD((MONTH - 1) ,3,'I1');
END
TABLE FILE GGSALES
SUM DATE1 AS 'Sales Period' OVER
DOLLARS
BY REGION
BY YEAR
BY HalfYear NOPRINT SKIP-LINE
ACROSS QTR1 NOPRINT
ACROSS MONTH1 NOPRINT ACROSS-TOTAL
END
```

“Raw” Data

PAGE 1										
Region	YEAR									
Midwest	1996	Sales Period	1996/01	1996/02	1996/03		1996/04	1996/05	1996/06	
		Dollar Sales	466636	475936	523198	1465770	403139	485940	561153	1450232
		Sales Period	1996/07	1996/08	1996/09		1996/10	1996/11	1996/12	
		Dollar Sales	432440	514215	470045	1416700	480268	480603	448265	1409136
	1997	Sales Period	1997/01	1997/02	1997/03		1997/04	1997/05	1997/06	
		Dollar Sales	448788	425039	477194	1351021	506141	436037	411106	1353284
		Sales Period	1997/07	1997/08	1997/09		1997/10	1997/11	1997/12	
		Dollar Sales	502284	442475	506911	1451670	503309	431685	567858	1502852
Northeast	1996	Sales Period	1996/01	1996/02	1996/03		1996/04	1996/05	1996/06	
		Dollar Sales	472225	507764	478606	1458595	479535	408514	463919	1351968
		Sales Period	1996/07	1996/08	1996/09		1996/10	1996/11	1996/12	
		Dollar Sales	535762	482494	531408	1549664	450831	495673	537168	1483672
	1997	Sales Period	1997/01	1997/02	1997/03		1997/04	1997/05	1997/06	
		Dollar Sales	449981	432749	430686	1313416	503961	478089	452464	1434514

ACROSS and Prefixes

```
DEFINE FILE GGSALES
QTR/Q = DATE;
MONTH/M = DATE;
YEAR/YY = DATE;
DOLLARS/F8=DOLLARS;
END
TABLE FILE GGSALES
SUM DATE1 AS 'Sales Period' OVER
Dollars OVER Dollars WITHIN HalfYear WITHIN QTR1 NOPRINT
COMPUTE Pct/F8.2% = (C2/C3) * 100 ;
BY REGION
BY YEAR
BY HalfYear NOPRINT SKIP-LINE
ACROSS QTR1 NOPRINT
ACROSS MONTH1 NOPRINT ACROSS-TOTAL
END
```

ACROSS and Prefixes

PAGE 1										
Region	YEAR									
Midwest	1996	Sales Period	1996/01	1996/02	1996/03		1996/04	1996/05	1996/06	
		Dollars	466,636	475,936	523,198	1,465,770	403,139	485,940	561,153	1,450,232
		Pct	31.84%	32.47%	35.69%	100.00%	27.80%	33.51%	38.69%	100.00%
		Sales Period	1996/07	1996/08	1996/09		1996/10	1996/11	1996/12	
		Dollars	432,440	514,215	470,045	1,416,700	480,268	480,603	448,265	1,409,136
		Pct	30.52%	36.30%	33.18%	100.00%	34.08%	34.11%	31.81%	100.00%
	1997	Sales Period	1997/01	1997/02	1997/03		1997/04	1997/05	1997/06	
		Dollars	448,788	425,039	477,194	1,351,021	506,141	436,037	411,106	1,353,284
		Pct	33.22%	31.46%	35.32%	100.00%	37.40%	32.22%	30.38%	100.00%
		Sales Period	1997/07	1997/08	1997/09		1997/10	1997/11	1997/12	
		Dollars	502,284	442,475	506,911	1,451,670	503,309	431,685	567,858	1,502,852
		Pct	34.60%	30.48%	34.92%	100.00%	33.49%	28.72%	37.79%	100.00%
Northeast	1996	Sales Period	1996/01	1996/02	1996/03		1996/04	1996/05	1996/06	
		Dollars	472,225	507,764	478,606	1,458,595	479,535	408,514	463,919	1,351,968

SUBFOOT WITHIN

SUBFOOT WITHIN

- New Feature

ON fieldname SUBFOOT *WITHIN*

“text with embedded fields”

- AUTOMATICALLY uses the prefix operator and WITHIN the ‘ON’ field

SUBHEAD/SUBFOOT WITHIN

Example

```
TABLE FILE CAR
SUM CNT.SEATS AS 'POPULATION' SEATS RCOST DCOST
BY COUNTRY
BY BODYTYPE
ON COUNTRY SUBTOTAL AVE. RCOST DCOST AS
  'UNWEIGHTED AVE:'
ON COUNTRY SUBFOOT
"NO WITHIN: <+23 <CNT.SEATS <+11 <RCOST "
ON COUNTRY SUBFOOT WITHIN
"TOTAL:      <+25 <CNT.SEATS <+11 <RCOST <+4 <DCOST "
"AVERAGE:   <+39 <AVE.RCOST <+4 <AVE.DCOST "
"MINIMUM:   <+39 <MIN.RCOST <+4 <MIN..DCOST "
"MAXIMUM:   <+39 <MAX.RCOST <+4 <MAX.DCOST "
END
```

SUBHEAD/SUBFOOT WITHIN

Example

COUNTRY	BODYTYPE	POPULATION	SEATS	RETAIL_COST	DEALER_COST
-----	-----	-----	-----	-----	-----
ENGLAND	CONVERTIBLE	1	2	8,878	7,427
	HARDTOP	1	2	5,100	4,292
	SEDAN	2	9	31,341	26,134
UNWEIGHTED AVE: ENGLAND				15,106	12,618
NO WITHIN		2		31,341	
TOTAL:		4		45,319	37,853
AVERAGE:				11,330	9,463
MINIMUM:				5,100	.
MAXIMUM:				17,850	14,940



Appendix – Creating QUOTA and SALES

QUOTA

```
JOIN CLEAR *
DEFINE FILE QUOTA
RAND/D12.2 = RDNORM(RAND);
SALES/D12.2 = ABS(RAND * QUOTA + QUOTA);
END
TABLE FILE QUOTA
PRINT SALES BY PIN
ON TABLE HOLD AS SALES FORMAT FOCUS INDEX
PIN
END
```

SALES

```
JOIN CLEAR *  
DEFINE FILE QUOTA  
RAND/D12.2 = RDNORM(RAND);  
SALES/D12.2 = ABS(RAND * QUOTA + QUOTA);  
END  
TABLE FILE QUOTA  
WRITE SALES BY PIN  
ON TABLE HOLD AS SALES FORMAT FOCUS  
INDEX PIN  
END
```