The two DESIGN subcommands are used to obtain the sum of squares for IODINE adjusted for SILVER and vice versa. The decomposition and bias matrices are also requested.

The output (Figure 1.15b) indicates that two degrees of freedom for the SILVER BY IODINE interaction effects are lost because of the empty cells. Therefore, instead of four degrees of freedom, it has only two.

Figure 1.15b

```
REDUNDANCIES IN DESIGN MATRIX

   COLUMN      EFFECT

       9    SILVER BY IODINE
      10     (SAME)
```

The decomposition and bias matrices and ANOVA table for the first DESIGN subcommand are given in Figure 1.15c.

Figure 1.15c

TRIANGULAR DECOMPOSITION OF DESIGN

	PARAMETER					
PARAMETER	1	2	3	4	5	6
1	-4.00000	-1.00000	-.75000	-.50000	-.50000	-1.00000
2	1.73205	-2.23607	-.11180	-.22361	-.22361	1.34164
3	1.41421	-.63060	-2.10357	-.28523	-.28523	.76061
4	1.41421	-.63060	1.19303	1.90227	.32521	1.06028
5	1.73205	-.77233	-.27090	1.60122	1.87427	-.17493
6	1.41421	-.63060	-.22119	-.10682	1.33325	3.38625
7	1.00000	-.44590	-.15640	-.07554	.94275	-2.92061
8	1.00000	-1.44590	-1.19649	-1.00287	-.76008	1.11430

	PARAMETER	
PARAMETER	7	8
1	.50000	.25000
2	-.22361	-.55902
3	-.64177	-.53481
4	.53460	.44550
5	.44982	.37485
6	1.41750	1.18125
7	-1.67054	1.00232
8	-1.49674	-1.26491

BIAS COEFFICIENTS FOR SEQUENTIAL ORDERING

	EFFECT			
EFFECT	1	2	3	4
1	16.00000	2.06250	1.00000	.31250
2	0.0	16.93750	3.53333	1.88750
3	0.0	0.0	11.46667	3.40465
4	0.0	0.0	0.0	5.39535

TESTS OF SIGNIFICANCE FOR RESP USING SEQUENTIAL SUMS OF SQUARES

SOURCE OF VARIATION	SUM OF SQUARES	DF	MEAN SQUARE	F	SIG. OF F
WITHIN CELLS	1041.66667	8	130.20833		
CONSTANT	17095.56250	1	17095.56250	131.29392	0.0
SILVER	2572.30417	4	643.07604	4.93882	.027
IODINE	149.95504	1	149.95504	1.15165	.315
SILVER BY IODINE	491.51163	2	245.75581	1.88740	.213

The PRINT subcommand applies to both DESIGN specifications. Figure 1.15d presents only the analysis of variance table for the second design specification.

Figure 1.15d

TESTS OF SIGNIFICANCE FOR RESP USING SEQUENTIAL SUMS OF SQUARES

SOURCE OF VARIATION	SUM OF SQUARES	DF	MEAN SQUARE	F	SIG. OF F
WITHIN CELLS	1041.66667	8	130.20833		
CONSTANT	17095.56250	1	17095.56250	131.29392	0.0
IODINE	473.20417	1	473.20417	3.63421	.093
SILVER	2249.05504	4	562.26376	4.31819	.037
SILVER BY IODINE	491.51163	2	245.75581	1.88740	.213