

repeated-measurement
for $2 \times 3 = 6$ treatment

Subject 2

C_2	C_3	
8	10	24
6	6	15
14	16	

Subject 4

C_2	C_3	
10	12	24
4	7	12
14	19	

Subject 6

C_2	C_3	
7	8	16
8	7	17
15	15	

down the totals for
subjects summed over
s. Viewing the data
surface of the cube.
 $T_{rc..}$ are as follows:

The totals above are obtained by adding the cell totals over subjects. Thus $4 + 6 + 1 + 2 + 5 + 1 = 19$, and so on. Totals for rows $T_{r..}$, for columns $T_{.c.}$, and the grand total are shown. The totals for rows by subjects summed over columns are as follows:

Rows	$T_{r..}$ Subjects						$T_{r..}$
	16	24	12	24	25	16	
7	15	12	12	16	17	79	
$T_{.c.}$	23	39	24	36	41	33	196 = $T_{...}$

Here the number 16 in the top left cell is obtained by summing the cells for the first subject over columns; thus $4 + 5 + 7 = 16$. Likewise $1 + 4 + 2 = 7$, and so on. The totals for columns by subjects summed over rows, $T_{.c.}$, are as follows:

Columns	$T_{.c.}$ Subjects						$T_{.c.}$
	5	9	4	3	10	3	
9	14	11	14	16	15	79	
9	16	9	19	15	15	83	
$T_{r..}$	23	39	24	36	41	33	196 = $T_{...}$

Here the values in the left-hand column in the above table are obtained by summing the cells for the first subject over rows; thus $4 + 1 = 5$, $5 + 4 = 9$, $7 + 2 = 9$, and so on.

Use is now made of the computational formulas given in Section 17.8. In the present example $n = 1$. Also a slight notational change has been made. In this example layers are subjects and the symbol S is used instead of L . In the formulas to follow S is the same as L in the formulas of Section 17.8. The factor S has N levels, where N is the number of subjects.

First we calculate *eight* quantities which are used in the computation formulas. For this illustrative example these are as follows:

$$\frac{1}{CN} \sum^R T_{r..}^2 = \frac{1}{3 \times 6} \times 19,930 = 1,107.22$$

$$\frac{1}{RN} \sum^C T_{.c.}^2 = \frac{1}{2 \times 6} \times 14,286 = 1,190.50$$

$$\frac{1}{RC} \sum^N T_{r..}^2 = \frac{1}{2 \times 3} \times 6,692 = 1,115.33$$

$$\frac{1}{N} \sum^R \sum^C T_{rc..}^2 = \frac{1}{6} \times 7,456 = 1,242.67$$