

800 Plain Bob Major

23456	W	B	M	H
23564		1		—
52364				—
53264				S
25364				—
32564				—
35264				S
23456	—		—	

Note that bobs and singles can be called at W, M and H only once in a course. With bobs before, however, this is not the case as 2, 3 or 4 bobs may then be called at consecutive lead-ends, and the number must be indicated under the "B."

The composition program described earlier has been modified so as to "keep the tenors together" throughout

and print out the results in the above notation. It is quicker than the old program since there is less difficulty in ending with rounds at a given point when 7 and 8 are never parted. [Actually a program has been written for Pegasus which will cause the computer to play sequences of changes on its loudspeaker. It is amusing to note that a party of change-ringers who heard this program were extremely impressed by what they called the "perfect striking" of the machine.]

Conclusion

This completes the work on P.B.M. that has been done on Pegasus. Other programs dealing with more complex methods in change-ringing have been developed, and several new peals have been produced. The application of a computer to this field is both amusing and interesting.

References

- (1) SNOWDON, JASPER and WILLIAM. *Standard Methods in the Art of Change-Ringing* (two volumes, "Letterpress" and "Diagrams").
- (2) SNOWDON, JASPER. *Ropesight*.
- (3) SNOWDON, JASPER. *A Treatise on Treble Bob*.

All the above are published by Whitehead and Miller, Ltd., Leeds.

Simultaneous Equations and Linear Programming (Continued from p. 46)

and finally,

x_1	x_2	x	y_1	y_2	
1	0	2	0.244	-0.074	1
0	1	-3	0.171	0.050	1
0	0	-1	-1.000	-1.000	0

Thus, $x_1 = 2$
 $x_2 = -3$

And A^{-1} is, to three decimal places,

$$\begin{bmatrix} 0.244 & -0.074 \\ 0.171 & 0.050 \end{bmatrix}$$

or, exactly,

$$\frac{1}{41} \begin{bmatrix} 10 & -3 \\ 7 & 2 \end{bmatrix}.$$

This is the inverse of

$$\begin{bmatrix} 2 & 3 \\ -7 & 10 \end{bmatrix},$$

so, $\begin{bmatrix} 2 & 3 \\ 7 & -10 \end{bmatrix}^{-1} = \frac{1}{41} \begin{bmatrix} 10 & 3 \\ 7 & -2 \end{bmatrix},$

which is the inverse of A^* .

Reference

DEUTSCH, M. L. (1959). Letter, *Comm. Assoc. Comp. Mach.*, Vol. 2, No. 3, p. 1.