REMARK ON ALGORITHM 246

Graycode [Z]
[J. Boothroyd, *Comm. ACM 7*, 12 (Dec. 1964), 701]

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The following modifications to Algorithm 246 will generate Gray code for any N, with each code word being generated in a bounded amount of time. Let A be a vector of zeros and ones of length N which will be the successive code words. New code words are successively generated by reversing a single bit in A each time. Routine OUTPUT, to be supplied by the user, is called on generation of every new code word.

Initially A contains all zeros. At every odd-numbered step, $A[N]$ is reversed. At every even-numbered step, $A[J-1]$ is reversed, where $A[J]$ is the rightmost one-bit in A. (In case $J = 1$, the algorithm terminates.) The positions of all the one-bits are stored in an increasing order in a stack S, from bottom to top. This helps in quickly locating J, the rightmost one-bit.

REFERENCES

1. EHRLICH, G. Loopless algorithms for generating permutations, combinations, and other combinatorial configurations. *J. ACM 20*, 3 (July 1973), 500–513.

REMARK ON ALGORITHM 483

Masked Three-Dimensional Plot Program with Rotations [J6]
[S. L. Watkins, *Comm. ACM 17*, 9 (Sept. 1974), 520–523]

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In the sample main program of Algorithm 483, line 13 should read:

```
*       BEAMV*SINC(7.5*SINF((3*NPOINT—93)*0.017453293))+
```

Further, the algorithm does not define subroutine PLOT which is called by FRAMER. Whereas IPLOT accepts coordinates in increments, PLOT accepts coordinates in inches.

I have modified this algorithm to run on a PDP 11/45-GOULD 5000 and would be happy to supply a listing to anyone who desires it.