```
TRAPZ: PROCEDURE OPTIONS (MAIN);
     DECLARE MSSG1 CHARACTER (20);
       MSSG1 = 'AREA UNDER THE CURVE';
     DECLARE MSSG2 CHARACTER (23);
       MSSG2 = 'BY THE TRAPAZOIDAL RULE';
     DECLARE MSSG3 CHARACTER (16);
       MSSG3 = 'FOR DELTA X = 1/';
     DECLARE I FIXED DECIMAL (2);
     DECLARE J FIXED DECIMAL (2);
     DECLARE L FIXED DECIMAL (7,6);
     DECLARE M FIXED DECIMAL (7,6);
     DECLARE N FIXED DECIMAL (2);
     DECLARE AREA1 FIXED DECIMAL (8,6);
     DECLARE AREA FIXED DECIMAL  (8,6);
     DECLARE LMTS FIXED DECIMAL (5,4);
         PUT SKIP EDIT (MSSG1)  (X(9), A(20));
         PUT SKIP EDIT (MSSG2) (X(7), A(23));
         PUT SKIP EDIT (' ') (A(1));
      AREA = 0;
            DO K = 4 TO 10;
              M = 1 / K;
              N = K - 1;
       LMTS = .5 * M;
              I = 1;
            DO J = 1 TO N;
              L = (I / K) ** 2;
      AREA1 = .5 * M * (2 * L);
      AREA = AREA + AREA1;
         IF I = N THEN CALL OUT;
           ELSE I = I + 1;
       END;
     END;
 OUT: PROCEDURE;
         AREA = AREA + LMTS;
     PUT SKIP EDIT  (MSSG3,K,AREA) (X(2),A(16),F(2),X(6),
           F(9,6));
      AREA = 0;
     RETURN;
   END;
END;
```

Held at arm's length, this program looks pretty impressive. There is a large assortment of data declarations, followed by a computation that is evidently complex enough to warrant a sub-procedure. Declarations are neatly aligned, and the executable statements are staggered so as to indicate several levels of control nesting. There are text strings to suggest the intent of the program, and mnemonic identifiers to give hints about how the results are obtained. The general impression conveyed is that this is a moderately complicated problem that has been carefully coded and is now well under control.

Closer inspection, however, shows quite the opposite.

Each output message is used only once, and would be better placed in the PUT statement that uses it instead of being separately declared and initialized by an assignment. (One message is even misspelled.) The first two PUT statements can be combined into