ALGORITHM 97
SHORTEST PATH
ROBERT W. FLOYD
Armour Research Foundation, Chicago, Ill.

```
procedure shortest path (m, n); value n; integer n; array m;
comment Initially m[i, j] is the length of a direct link from
  point i of a network to point j. If no direct link exists, m [i, j] is
  initially ₁₀10. At completion, m [i, j] is the length of the shortest
  path from i to j. If none exists, m [i, j] is ₁₀10. Reference: WAR-
  SHALL, S. A theorem on Boolean matrices. J, ACM 9(1962), 11-12;
begin
integer i, j, k; real inf, s; inf := ₁₀10;
for i := 1 step 1 until n do
for j := 1 step 1 until n do
if m [j, i] < inf then
for k := 1 step 1 until n do
if m [i, k] < inf then
begin s := m [j, i] + m [i, k];
if s < m [j, k] then m [j, k] := s
end
end shortest path
```