```
FLOYD-WARSHALL-NEW(W)
    n = W.rows
    let Π_(0) = (π_ij^(0)) be a new n x n matrix
    for i = 1 to n
        for j = 1 to n
            if i = j or w_ij = infinity
                π_ij^(0) = null
            else
                π_ij^(0) = i
    D^(0) = W
    for k = 1 to n
        let D^(k) = (d_ij^(k)) be a new n x n matrix
        for i = 1 to n
            for j = 1 to n
                if d_ij^(k-1) ≤ d_ik^(k-1)+d_kj^(k-1)
                    π_ij^(k) = π_ij^(k-1)
                else
                    π_ij^(k) = π_kj^(k-1)
                d_ij^(k) = min(d_ij^(k-1), d_ik^(k-1)+d_kj^(k-1))
    return D^(n), Π^(n)
```