

Pseudocode for Dijkstra's single-source shortest paths algorithm. Let v be the starting node.

At termination, each node n 's d field contains the length of the shortest path from v to n .

```
shortest_paths(v):
    S = {};
    F = {v};
    v.d = 0;
    v.bp = null;
    while (F != {}) {
        f = node in F with min d value;
        Remove f from F, add it to S;
        for each neighbor w of f {
            if (w not in S or F) {
                w.d = f.d + weight(f, w);
                w.bp = f;
                add w to F;
            } else if (f.d + weight(f, w) < w.d) {
                w.d = f.d + weight(f, w);
                w.bp = f;
            }
        }
    }
}
```