Algorithm 1 d_{MIW}(Position p, Position q)

1: **if** $Rooms(p)$=$Rooms(q)$ **then**
2: $minDist \leftarrow d_o(p, q)$;
3: **else**
4: $minDist \leftarrow +\infty$
5: **for** each door d_p in $Doors(Rooms(p))$ **do**
6: **for** each door $d_q \neq d_p$ in $Doors(Rooms(q))$ **do**
7: $l \leftarrow d_o(p, d_p) + d_o(d_q, q) + D2D(d_p, d_q)$
8: **if** $l < minDist$ **then**
9: $minDist \leftarrow l$;
10: **return** $minDist$;