



Input

L0
 L1
 L0 ($p0(x,y)$, $p1(x,y)$, true, true)
 L1 ($p0(x,y)$, $p1(x,y)$, true, true)

Output

L1 L0
 L3 L2
 L0 ($crossPoint$, $p1(x,y)$, false, true)
 L1 ($p0(x,y)$, $crossPoint$, true, false)
 L2 ($crossPoint$, $p1(x,y)$, false, true)
 L3 ($p0(x,y)$, $crossPoint$, true, false)