

$$(x,y)\in \bigcap S\wedge (y,z)\in \bigcap S\rightarrow (x,y)\in r_1,r_2 and (y,z)\in r_1,r_2r_1,r_2 \text{transitive}\rightarrow (x,z)\in r_1,r_2\rightarrow (x,z)\in r_1,r_2$$