6. Π p.pid,p.pname (Person $\bowtie$ p.pid=w.pid $\wedge$ w.cname='Google' worksFor Π p1.pid=k.pid1 Knows $\bowtie$ w1.pid=k.pid2 $\wedge$ w1.cname='Google' $\wedge$ w.salary >w1.salary worksFor $\bowtie$ p1.pid=k.pid2 Person1)

7. Π cname,pid,pname,salary (Π c.cname,p.pid,p.pname,w.salary (Person $\bowtie$ p.pid=w.pid worksFor $\bowtie$ c.headquarter='Cupertino' $\wedge$ c.cname=w.cname Company $\bowtie$ l.city<>'Indianapolis' companyLocation $\bowtie$ w1.salary<w.salary $\wedge$ w.cname=w1.cname WorksFor1) - Π c.cname,p.pid,p.pname,w.salary (Person $\bowtie$ p.pid=w.pid worksFor $\bowtie$ c.headquarter='Cupertino' $\wedge$ c.cname=w.cname Company $\bowtie$ l.city<>'Indianapolis' companyLocation $\bowtie$ w1.salary<w.salary $\wedge$ w.cname=w1.cname WorksFor1 $\bowtie$ w2.salary<w.salary WorksFor2 $\bowtie$ w3.salary<w2.salary WorksFor))

8. Π cname,pid(Π w.cname as wcname, p.pid as ppid (Person $\bowtie$ p.pid=w.pid WorksFor) - (Π cname, pid(Π w.cname as wcname,p.pid as ppid,p1.pid,w1.pid(Person $\bowtie$ p.pid=w.pid WorksFor $\bowtie$ w.cname=w1.cname $\wedge$

$_{w.pid<>w1.pid}$ WorksFor1 $\bowtie_{p1.pid=w1.pid}$ Person) -($\Pi_{w.cname\ as\ wcname,p.pid\ as\ ppid,p1.pid,w1.pid}$(Person $\bowtie_{p.pid=w.pid}$ WorksFor $\bowtie_{w.cname=w1.cname \wedge w.pid<>w1.pid}$ WorksFor1 $\bowtie_{p1.pid=w1.pid}$ Person $\bowtie_{w.pid=k.pid2 \wedge w1.pid=k.pid1}$ Knows)))

9. $\Pi_{s.skill}$(Skill) - $\Pi_{ps.skill}$(Person $\bowtie_{ps.pid=p.pid}$ PersonSkill $\bowtie_{p.pid=w.pid \wedge (w.cname='Netflix')}$ worksFor)

10. $\Pi_{p.pid,p.pname}$ (Person $\bowtie_{p.pid=h.mid}$ hasManager) - $\Pi_{p.pid,p.pname}$(Person $\bowtie_{p.pid=h.mid}$ hasManager $\bowtie_{w2.cname='Google'}$ worksFor2 $\bowtie_{h2.eid=w2.pid \wedge h.mid<>h2.mid}$ hasManager2)

11. $\Pi_{p.pid}$(Person $\bowtie_{p.pid=h.mid}$ hasManager $\bowtie_{w.pid=h.mid}$ worksFor $\bowtie_{w1.pid=h.eid \wedge w.salary<w1.salary}$ worksFor1) $\neq \varnothing$

12. $\Pi_{\text{k.pid1,k.pid2,w.cname}}(\text{Knows} \bowtie_{\text{k.pid2=w.pid and w.cname='Google'}} \text{worksFor}) \bowtie (\Pi_{\text{k.pid1,k.pid2,w.cname}}(\text{Knows} \bowtie_{\text{w.pid=k.pid2} \wedge \text{w.cname='Google'}} \text{worksFor}) \neq \emptyset$

13. $\Pi_{\text{pid}}(\text{Person}) \subseteq \Pi_{\text{h.eid}}(\text{hasManager} \bowtie_{\text{h.eid=k.pid1} \wedge \text{h.mid=k.pid2}} \text{Knows})$

14. $\Pi_{\text{pid}}(\text{Person}) \subseteq \Pi_{\text{h.eid}}(\text{hasManager} \bowtie_{\text{h.eid=w1.pid}} \text{worksFor1} \bowtie_{\text{h.mid=w2.pid} \wedge \text{w1.cname=w2.cname}} \text{worksFor2})$

15. $\Pi_{\text{p.pid}}(\text{Person} \bowtie_{\text{p.pid=p1.pid} \wedge \text{p.pname<>p1.pname}} \text{Person1}) = \emptyset$