14. {(p.pid, p. pname) | Person(p) ∧ worksFor(w) ∧ p.pid = w.pid ∧ p.city = ‘Bloomington’ ∧ w.salary >= 30000 ∧ w..salary <= 50000 ∧ ∃ hm (hasManager (hm) ∧ p.pid = hm.eid)}

15. {p.pid, p.pname | Person(p) ∧ ¬∃hm(hasManager(hm) ∧ hm.mid = p.pid) ∧ ∀ hm (Person(p2) ∧ hasManager(hm) ∧ p2.pid = hm.mid ∧ p.pid = hm.eid → p.city ≠ hm.city)}

16. {(p.pid, p.pname, w.salary) | Person(p) ∧ worksFor(w) ∧ p.pid = w.pid ∧ p.pid ∃ m1 ∈ hasManager, m2 ∈ hasManager (m1.eid = p.pid ∧ m2.eid = p.pid ∧ p.skill = ‘Programming’)}

17. {(c.cname, c.salary) | worksFor(w) ∧ Company(c) ∧ c.cname = w.cname ∧ w.salary ≥ ∀ {(w1.salary) | (worksFor(w1)) ∧ w1.cname = w.cname }}

18. {1 | Person(p), ∧ hasManager(hm), ∧ p.pid = hm.eid ¬ ∃ p1, p2 ∈ Person, h1 ∈ hasManager(p1.pid = h1.eid ∧ p2.pid = h1.mid ∧ h1.eid = h2.eid}}

19.{1 | ∃p ∈ Person, ∃w ∈ worksFor (p.pid = w.pid ∧ ∃w1 ∈ worksFor, hm ∈ hasManager (w1.pid = hm.mid ∧ w.salary < w1.salary)}

20. {1 | ¬(∃h hasManager(hm), ∃w worksFor(w), ∃w1 ∈ worksFor (w.pid = h.eid ∧ w1.pid = hm.eid ∧ ¬ w.cname = w1.cname)}