assignment6

Danishjeet Singh

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1 Formulating queries in the Tuple Relational Calculus

13. (sid, sname) | $Student(sid, sname, city) \wedge city = "Bloomington"$
$\wedge \exists e(employedBy(sid, deptName, salary) \wedge salary > 20000) \wedge \exists f(hasFriend(sid, sid2))$

14. (sid, sname) | $Student(sid, sname, city) \wedge$
$\neg \exists f(hasFriend(sid, sid2) \wedge Student(sid2, sname2, city2) \wedge city = city2)$

15. (sid, sname, salary) | $Student(sid, sname, city) \wedge \exists f_1 \exists f_2(hasFriend(sid, sid_1) \wedge$
$hasFriend(sid, sid_2) \wedge sid_1 \neq sid_2 \wedge studentMajor(sid_1, major_1) \wedge studentMajor(sid_2, major_2) \wedge$
$major_1 = major_2 \wedge major_1 \neq 'Mathematics')$

16. {(d.deptName, max($e.salary$)) | $Department(d), employedBy(e), d.deptName =$
$e.deptName$}