

Database Concepts: Assignment 1 Q1

Name: Duncan Do

Student Number: s3718718

1.1 Does the primary key (dnumber, dlocation) ensure that each department is located at a different location? Explain your answer.

No, because there could exist a primary key combination of a new number and an already existing location (E.g. 6, Houston), it would be a unique primary key but still be in the same location as an existing tuple

1.2 Can two dependents have the same name? Can two dependents of the same employee have the same name? Explain your answer using the data integrity constraints on the Dependent table.

Yes, the Essn is dependent on the employee, so if they are dependants from different employees, they can have the same name.

No, if 2 dependants are under the same employee, they will have the same Essn, so the same name would result in duplicate primary keys. Therefore, two dependants of the same employee cannot have the same name.

1.3 It is possible that an employee does not have a supervisor? Explain you answer.

Yes, because James E Borg has a NULL in his Super_ssn. Thus, he has no supervisor.

1.4 Can the below SQL statement be successfully executed? Explain your answer.

INSERT INTO Dept_locations VALUES(6, 'Dallas');

Yes, because the primary key combo of 6 and Dallas is unique to every other tuple in the relation.