Database Review

1. SELECT SUM(population)

FROM world

WHERE continent = ‘Africa’;

1. SELECT name, population

FROM world

WHERE name IN (‘Afghanistan’, ‘Albania’, ‘Angola’);

1. SELECT name, area

FROM world

WHERE area > 200000 AND area < 250000;

1. SELECT name, continent, population

FROM world;

1. SELECT name

FROM world

WHERE population >= 200000000;

1. SELECT name, GDP

FROM world

WHERE population >= 200000000;

1. SELECT name

FROM world

WHERE name LIKE ‘ro%’;

1. SELECT name, population, area

FROM world

WHERE population > 250000000 OR area > 3000000;

1. SELECT SUM(population)

FROM world;

1. SELECT name FROM world

WHERE gdp > (SELECT gdp FROM world WHERE name = 'Andorra');

Normalization Review

1. Normalization is the process of organizing a database to reduce redundancy and improve data integrity.

2) A table is in 1NF when

3) A table is in 2NF when it has no

4) A table is in 3NF when the table has no transitive functional dependency and is in 2NF.

5) Partial dependency occurs when one primary key determines some other attribute/attributes

6) Transitive dependency is when two attributes are indirectly related to each other.

7) Delete, Update and Insertion Anomalies

8) **Unnormalized**

STU\_NUM, STU\_LNAME, STU\_MAJOR, DEPT\_CODE, DEPT\_NAME, DEPT\_PHONE, COLLEGE\_NAME, ADVISOR\_LNAME, ADVISOR\_OFFICE, ADVISOR\_BLDG, ADVISOR\_PHONE, STU\_GPA, STU\_HOURS, STU\_CLASS

**1NF**

STUDENT (**STU\_NUM**, STU\_LNAME, STU\_MAJOR, DEPT\_CODE, DEPT\_NAME, DEPT\_PHONE, COLLEGE\_NAME, ADVISOR\_LNAME, ADVISOR\_OFFICE, ADVISOR\_BLDG, ADVISOR\_PHONE, STU\_GPA, STU\_HOURS, STU\_CLASS)

**2NF**

STUDENT (**STU\_NUM**, STU\_LNAME, STU\_MAJOR, STU\_GPA, STU\_HOURS, STU\_CLASS, *DEPT\_CODE*)

DEPARTMENT (**DEPT\_CODE**, DEPT\_NAME, DEPT\_PHONE)

ADVISOR(**ADVISOR#**, ADVISOR\_LNAME, ADVISOR\_OFFICE, ADVISOR\_BLDG, ADVISOR\_PHONE, *STU\_NUM*)

**3NF**

STUDENT (**STU\_NUM**, STU\_LNAME, *DEPT\_CODE*)

DEPARTMENT (**DEPT\_CODE**, DEPT\_NAME, DEPT\_PHONE)

ADVISOR(**ADVISOR#**, ADVISOR\_LNAME, ADVISOR\_OFFICE, ADVISOR\_BLDG, ADVISOR\_PHONE, *STU\_NUM*)

STUDY (STU\_MAJOR, STU\_GPA, STU\_HOURS, STU\_CLASS, *STU\_NUM, DEPT\_CODE*)

9)

d. AirlineID -> AirlineName

TerminalID -> NumberOfGates

10)

Employee (EmpID, EmpName, Spl, Mgr, ProjNo, PTitle, SName, SLoc, Bonus)

EmpID -> EmpNAME