ISTE-230 Introduction to Database & Data Modeling

## Practice Exercise # 9 – Transposing

**Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**All assignments will be graded with regard to the standards that were discussed in class, which can be found in the Standards Content area.**

Be sure to use proper relational notation: RELATION(pkattr, attribute, *fkattr*). Include reference statements for foreign keys.

**Problem #1**

Transpose the E-R diagram below into relations, implementing all relationships. Denote primary keys and foreign keys appropriately. Use proper relation notation. Make sure your relation names are in all caps.



**YOUR TRANSPOSED RELATIONS:**

CITY(cityID, name, district, population, *country*)

CITY(country) MEI COUNTRY(name)

COUNTRY(code, name, region, surfaceArea, indepYear, population, lifeExpectancy, gnp, gnpOld, localName, governmentForm, headOfState, capital, code2, *language, continent*)

COUNTRY(language) MEI Language(language)

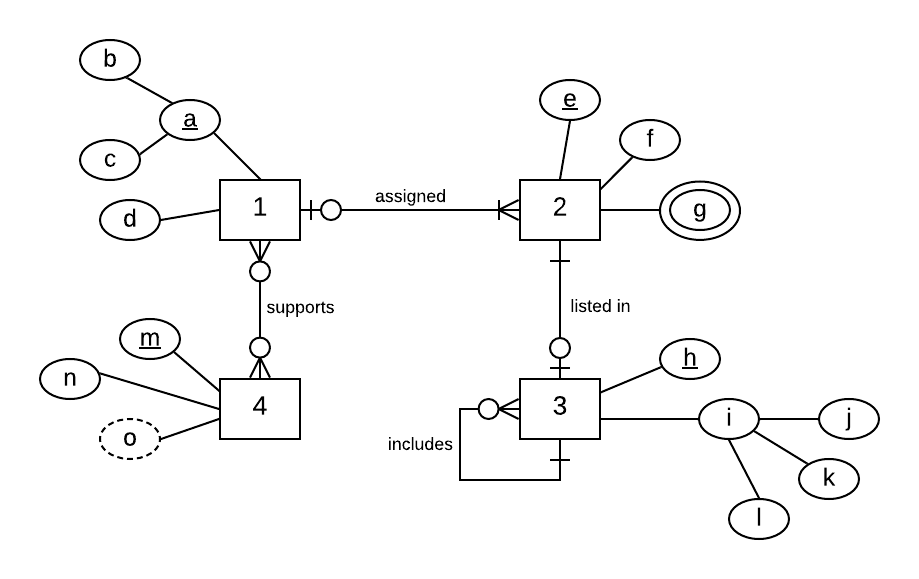
COUNTRY(continent) MEI CONTINENT(name)

LANGUAGE(langCode, language)

CONTINENT(continentID, name)

**Problem #2**

Transpose the E-R diagram below into relations, implementing all relationships. Denote primary keys and foreign keys appropriately. Use proper relation notation. You do not need to fix any possible normalization issues.



**YOUR TRANSPOSED RELATIONS:**

1(b, c, d)  
2(e, f, *b, c*)

2(b, c) MEI 1(b, c)

3(h, j, k, l, e, *h1*)

3(e) MEI 2(e)  
3(h1) MEI 3(h)

4(m, n)  
1\_4(*b, c, m*)

1\_4(b, c) MEI 1(b, c)  
1\_4(m) MEI 4(m)

**Problem #3**

Transpose the E-R diagram below into relations, implementing all relationships. Denote primary keys and foreign keys appropriately. Use proper relation notation. Make sure your relation names are in all caps.



**YOUR TRANSPOSED RELATIONS:**

INSURANCE\_COMPANY(co#, name)

INSURANCE\_POLICY(policy#, *company*)

INSURANCE\_POLICY(company) MEI INSURANCE\_COMPANY(name)

PERSON(ssn, firstName, lastName, type)

STAFF(*department, manager, managee*)

STAFF(department) MEI DEPARTMENT(name)

STAFF(manager, managee) MEI STAFF(managee, manager)

DEPARTMENT(dept#, name)

SUPPORT\_STAFF(wage)

NURSE(certification)

DOCTOR(d, *patient, d1)*

DOCTOR(D1) MEI DOCTOR(d)