

CENG 351 Data Management and File Structures

Fall 2013 –Written Assignment #2

Due Date: Oct. 21, 2013

An international company has a chain of coffee shops in 25 countries of the world. Coffee shops in countries name their products in their native language equivalents. You can assume that all products are served in at least one coffee shop.

Consider the following small part of the schema developed for this company:

Country (countryID, cName)

CoffeeShop (shopID, sName, countryID, city)

Product(productID, size)

Serves (shopID, productID)

ProductNames (productID, countryID, pName)



Prepare appropriate relational algebra statements for given queries. Write down your answers with your own hand-writing. No softcopy required. Put hardcopies into the box at A206.

- 1) (20 pts)List native names of products that are served in Turkey only.
- 2) (10 pts)In which cities of Italy i can drink venti size product named "caffè normale"?
- 3) (20 pts)List names of products that have same names in all countries they are served.
- 4) (15 pts)List productIDs of products that are served in both Italy and in Spain.
- 5) (15 pts)List names of coffee shops which serve all the same product with coffe shop named "Caffè Fiorio" serves?
- 6) (20 pts)List productIDs of products that have at least two different names all over the world.

Please don't forget to use parenthesis while writing your statements to make them readable. Also note that you may lose points if you don't consider efficiency in your statements.