

# COMP1000 2017s1 - Lab Class 9 – Access 2010

## QUESTION 1: Creating a food database (11 marks)

- (1) Create a new database called “Food” in ACCESS 2010 (1 mark)
- (2) Create tables for your “food” database in ACCESS 2010 as follows: (1 mark)

### TABLENAME: AREA

FIELDNAME	DATATYPE	INDEXED
AreaID	NUMBER	PRIMARY KEY
AreaNAME	TEXT	NO

### TABLENAME: SUPERMARKETS

FIELDNAME	DATATYPE	INDEXED
SupermarketID	AUTONUMBER	PRIMARY KEY
SupermarketNAME	TEXT	NO
AreaID	NUMBER	YES, DUPLICATES

- (3) Populate the above tables with sample data. (Make sure you populate the table with sufficient data to be able to build queries) (1 mark)
- (4) Create an Excel Spread Sheet with two worksheets as follows: (2 marks)
  - (a) The first worksheet contains the list of recipes with the following column headings - RecipeID, RecipeName, Category, Difficulty. The applicable values for category are: ENTRÉE, MAIN, BAKING, DESERT. The applicable values for Difficulty are: EASY, MEDIUM, HARD
  - (b) The second worksheet contains a list of ingredients for each of the recipes in the first worksheet. The column headings are: IngredientID, IngredientName, RecipeID, Quantity,AreaID
  - (c) Make sure your spreadsheet contains data for each of the worksheets
- (5) Import the EXCEL spreadsheet, to create two new tables RECIPE and INGREDIENTS. Use appropriate data types while importing the table. Each table should have one primary key. (1 marks)
- (6) Apply appropriate relationships between the tables and enforce referential integrity (1 mark)
  - (a) Enforce referential integrity

(b) Make sure that if a field is a foreign key, it MUST have the same data type as the primary key in the primary table.

(c) All foreign key fields must be indexed

(7) Create the following queries:

(a) Using the Query Wizard, build a query that selects all recipes that are either DIFFICULTY="EASY" or DIFFICULTY="HARD" save this query as FindEasyMediumRecipes (1 mark)

(b) For this task, choose any recipe of your choice. Using the Query Design View, build a query that lists all the ingredients and the supermarkets where the ingredient is found for your chosen recipe. (Hint: For this query, you will need to use multiple tables. Add the Recipe, Ingredients, Area and Supermarket table to your design view). Save this query as ListIngredients. (3 marks)

## QUESTION 2: Creating a movie database (9 marks)

(1) Create an XML document that contains a list of movies and name the xml file movies.xml. A sample XML file is provided for you: (2 marks)

```
<?xml version="1.0"?>
<movies>
  <movie>
    <title>Harry Potter and the Philospher Stone</title>
    <genre>Fantasy</genre>
    <boxofficeearnings>$974,755,371</boxofficeearnings>
    <year>2001</year>
  </movie>
  <movie>
    <title>Fantastic Beasts</title>
    <genre>Action</genre>
    <boxofficeearnings>$803,798,342</boxofficeearnings>
    <year>2016</year>
  </movie>
</movies>
```

(2) Import the XML file to create a new table "MOVIES". You can use the same "food" database for this exercise. (1 mark)

(3) Create a query that has the highest box-office earnings in 2005 and save this query as HighestGross2005 (2 marks)

(4) Create a query showing all the films which collected more than \$500,000 in the past 10 years and save this query as SuccessfulMoviesOfTheDecade (4 marks)