ACS 1803 Assignment 1

Due: **September 24, 2019**

Submit: Victor Balogun   Instructor, ACS-1803

Total 30 marks.

 To be done individually.

1. **(10 marks)**
   From the articles listed below, analyze the use of information as mentioned in the article. Write a 500 – 750-word essay describing the type of information that is discussed in the article. As part of your essay, define five characteristics that describe the value of information and how it applies within the context of the article. Be very specific in identifying the characteristics that make information valuable by providing specific examples from the article. In your own words describe how the characteristics are presented.

https://www.forbes.com/sites/bernardmarr/2015/03/25/big-data-the-winning-formula-in-sports/#312c539834de

2. **(12 marks)**
   Demonstrate how would you set up a relational database for the following data. Express your design completely, showing all the data fields and records in the proper places based on the data below. You will need to show all your tables filled with data from below. You will not have to provide record layouts for any of your tables. The data for your database is in the narrative below:

 A small online sales/retail company called CustomSalesCo sells accessory items for cell phones, tablets, and notebook computers. See the sample data below.

- James Brown; 78 Smithfield Drive; phone: (214)356-6756; credit# 345234476; purchase no.'s 81254.1 - 81254.3; purchases: (1) Blue Cell Phone Cover - $24.95; (1) Touch Screen Clear Overlay - $14.95; and (1) Cell Phone Car Adapter - $35.00.
- Linda Foster, 23-446 Roman Street; credit # 445334978; purchase no.'s 82368.1 - 82368.2; purchases: (1) Red Tablet Case; $45.95, (1) Cell Phone Car Adapter - $35.00.
- Cameron Packer; 996 Blanket Cove; credit # 886445234; phone: (423)775-3445; purchase no. 83565.1; purchases: (1) Black Leather Notebook Case; $95.00.

- Linda Foster, credit # 445334978; purchase no. 84250.1; purchases: (1) Touch Screen Clear Overlay; $14.95.

Notes:

- The owner would like to use the customer credit number as a way of locating each customer in the system.
- Purchase numbers have a one-to-one relationship with products.
- In assessing the design, you consider each customer transaction (above) occurred on a different business day for each week in the month of September 2019.

Arrange the data according to relational database concepts learned in class.

a) Show the data in one table (file) with all your data records. Explain why this would not be a good way of organizing data on disk.
b) Convert the unnormalized sales table (file) to a relational database design. Fill each database table in your design with data from the question such that no information is lost. Identify the data fields, primary key, foreign key, and combination keys. Describe why it is better to store data on disk in this way rather than all in one table.
c) Create an Entity Relationship Diagram

3. **(8 marks)**
   The owner has requested the two (2) forms of output that show how well CustomSalesCo is doing in terms of sales ($) for the month.
   - The first is to report on the products sold by customer for the month of September and includes the following: customer name, product(s) purchased, sale ($) amount, transaction date, and total sales ($) for each customer. In addition, the owner would like a total of all products sold ($) for all customers at the end of the report.
   - The ability to query the system using a query program and display all of the products sold (by purchase number), the sales for each product, and the date sold for each product for the month.