**Assignment # 2**  **Java Fundamentals**

**Weight:** 15**%**

**Instructions:**

* This is an individual assignment so work submitted should be created by you.
* Submit java files and the output of the program by embedding them in the word document. Also submit the zip file created by zipping the project folder.
* Your name must be displayed in the output
* Late assignment will be penalized with **5% per day** and will **not be accepted after 5 days**

**Description:** A company has the following discount policy for the customers depending upon the type of customer and the order amount:

If a customer is a retail customer, then company will give a discount of 10% of the order amount if it is $1000 or above otherwise no discount. But if a customer is a wholesale customer them for any order less than $500, 10% discount is provided, and any order between $500 and up to $1000 the discount is 20% and for orders above $1000 will provide a discount of 30%.

Develop an application that should accept the details of item like; the name of item ordered, quantity and unit price. It should also accept the customer details like type of customer and name of the customer. Then it should compute order amount (i.e., multiply quantity and unit price). It should compute the tax on the order amount at the rate of 13% and discount as per the discount policy of the company. Then it should compute total of the order (add tax to the order amount and subtract the discount).

It should display the bill for the customer with the name of store, date of sale, order amount, discount, taxes, and net total on the screen.

The program should continue as long as user has more orders to process.

Your solution should:

* Create and use an item class where (3 points)
  + Should have proper attributes for an item
  + Item class should have set methods for its instance variables and set the data only if is valid otherwise not
  + Item class should have get methods for its instance variables
  + Item class should have method to get item charges
  + Item class should provide possible constructors
  + Validate an item price to be greater than 0
  + Validate an item quantity to be from 1 to 10
* Create and use class AppConstants, that should create all the constants used in this application. (1 point)
* Create and use Customer class that should provide (2 points)
  + Fields for the customer attributes.
  + Get/Set methods for each attribute
  + Constructor with proper default data.
* Create a MainClass for the main() method
* Provide validation for numeric values i.e. item ordered should be more than 0 and at the most 10, price of the item should be more than 0
* Continue to accept the information till valid data is not entered.
* Display the result in the proper format

**Evaluation**: Your work will be evaluated based upon the following criteria:

**Functionality** – It is meeting the functional requirements i.e. accepting the needed data, performing proper calculations and displaying the needed output. (5 points)

**Data validation** – All the needed data validation is provided. (2 points)

**Quality** - Meeting the quality parameters i.e. proper class is created and used solution developed is a quality solution and is following all the rules and conventions of Java programming. (2 points)