**Assignment 9**

For this assignment, you are given two small application scenarios, and implement them using the patterns suggested.

1. A words generator is an object that can select a word from its collection, and add the word to a sentence. Write a console program to generate random sentences using Chain of Responsibility Pattern with words generators. Suppose there are four words generators for construction of sentences of the “subject verb object adverb” kind (thus, they are “subject” generator, “verb” generator, etc.). The program can generate sentences like “a dog chases a cat amusingly”, or “Dave closes a box gradually”, etc., but obviously some of the sentences might make little sense, if at all. The “node” class might look like the following:

*abstract class WordGenerator{*

*private WordGenerator next;*

*abstract Sentence processRequest(Sentence s);*

*//getters and setters you might need.*

*}*

1. Do the same problem in Question 1 but using Visitor Pattern instead.
2. Suppose the IT department of a company has “observers” of four kinds: developers, business analysts, team leads, and testers, they “observe” messages sent by the IT manager. Each message (sent by the manager) has a message field identifier (dev, ba, tl, tt) for the kind of observers the message is intended. Based on the field identifier of a message, an employee of IT would either read or ignore the message. However, if the identifier were “all”, then everyone would have to read it. Write console program that inputs (in a loop) a message field identifier, and a message, and then inform all observers about it; and each observer would then either be silent (if he/she does not have to read it) or output what the message was using Observer Pattern (either with your own types or Java library types).