**CSC 322 Assignment 1 -** Relationships between Classes.

In CSC 115 and CSC 222, we covered OOP design. We addressed inheritance, an IS-A relation between two classes, which indicates that an object is a type of another object. This creates a hierarchy between classes by way of a mechanism in which one object acquires all the properties and behaviors from a parent class.

**This assignment covers Association, Composition and Aggregation Relationships in Java.**

Use comments at the top of your Java file to answer the questions below: **6 points for each detailed answer**

1. Finish the sentence

Relationships between classes are an important part of Object Oriented Programming because

1. Describe an Association, in general terms.

1. List the four types of Associations between two classes.

1. Illustrate each of these relationships by writing a sentence for each one between an Employee class and a Company class.

1. These Associations mean that objects from one class can communicate with objects of another class, enabling them to access data. Describe how a HAS-a relationship is created in OOP.

1. The two forms of Association are Aggregation and Composition. Describe both, highlighting the differences.

**40 Points**

Create two separate Java code examples to illustrate the differences between Aggregation and Composition.

a) Write two classes and a main class to demonstrate how an Aggregation relationship is established and used.

b) Write two classes and a main class to demonstrate how a Composition relationship is established and used.

Submit all of your files in a zipped folder and submit to Blackboard.