**Assignment 3**

**Class**

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COMP-CO835-09: Object Oriented Systems

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October 11th, 2024

**Question 1.**

A class differs from a domain class because classes are used to describe a collection of objects while a domain class is used to describe only the objects in the problem domain. The key parts are Names, Attributes, Relationships and Multiplicity (Ukah, 2024, slide 23).

**Question 2.**

* **Attribute:** An example of an attribute could be a customer’s first name or last name.
* **Identifier or Key:** An example of an identifier or key could be a unique customer ID
* **Compound Attribute:** An example of a compound attribute could be a customer’s address (a combination of street name, number, city, postal code) (Ukah, 2024, slide 13).

**Question 3.**

The three types of Class Diagram relationships are:

1. **Whole Part Relationships**: “A relationship that shows an association between one class and other classes that are parts of that class” (Satzinger, Jackson, & Burd, 2016, p. 110).



**Symbol:** Diamond.

**Example:** The many connected parts of a computer. Ex) Processor, Monitor, Input Devices

1. **Generalization/Specialization Relationships**: This is a hierarchical relationship. Sub classes are inherited from superior classes (Satzinger, Jackson, & Burd, 2016, p. 107).



**Symbol:** Arrowhead.

**Example:** A Vehicle Class where other classes like Truck or Car extend from the Vehicle superclass. Truck and Car being subclasses of Vehicle and Vehicle being the superclass.

1. **Association Relationships:** This relationship shows dependencies between classes. One class is connected to another class. This is a “has a” relationship. We use this relationship when attributes need to be remembered (Ukah, 2024, slide 28).

A black pole with a light on it

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**Symbol:** Straight line with multiplicity expressed at each end of the line.

**Example:** A Band Class that has a zero-to-many relationships with a Concert Class and a Concert Class that has a one-to-many relationship with a Band Class. These show dependencies and the “has a” relationship.

**Question 4.**

**A screenshot of a graph

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References

Ukah, S. (2024). *Object-oriented systems concepts* [PowerPoint slides]. COMP CO835 Object-Oriented Systems, Week 4. University Name.

Satzinger, J. W., Jackson, R. B., & Burd, S. D. (2016). *Systems analysis and design in a changing world* (7th ed.). Cengage Learning.