FACULTY OF ENGINEERING & TECHNOLOGY

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Topics Covered

Aggregation

Composition

Object

- Aggregation is a specialized form of Association where all objects have their own lifecycle, but there is ownership and a child object cannot belong to another parent object. Let's take an example of a Department and teacher. A single teacher cannot belong to multiple departments, but if we delete the department the teacher object will not be destroyed. We can think of it as a "has-a" relationship.

- Composition is one of the fundamental concepts in object-oriented programming. It describes a class that references one or more objects of other classes in instance variables. This allows you to model a *has-a* association between objects.

Given its broad use in the real world, it's no surprise that composition is also commonly used in carefully designed software components. When you use this concept, you can:

- ✓reuse existing code
- ✓design clean APIs
- ✓change the implementation of a class used in a composition without adapting any external clients

Object

- Any entity that has state and behavior is known as an object. For example, a chair, pen, table, keyboard, bike, etc. It can be physical or logical.
- An Object can be defined as an instance of a class.
- The only necessary thing is the type of message accepted and the type of response returned by the objects.