CITY UNIVERSITY

Assignment No -01

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Assignment Name: Generalization & Association Class Diagram

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Contents of Generalization and Association

Generalization

What is a Generalization?
Generalization is an essential component of the wider scientific process. In an ideal world, to test a hypothesis, you would sample an entire population. It is what allows researchers to take what they have learnt on a small scale and relate it more broadly to the bigger picture.

## Greater Representativeness = Greater Generalizability
Few researchers can conduct research on every member of a population. But what they can do is construct a "mini-population" which is as similar to the population as possible.

Population: The entire set of possible measurements.

Sample: A smaller selection of items from that set.

For any experiment, you need to consider the representativeness of your sample, the effects of time and your sample size. You must ensure that the sample group is as truly representative of the whole population as possible. For many experiments, time is critical as the behaviors can change yearly, monthly or even by the hour. The size of the group must allow the statistics to be safely extrapolated to an entire population. A group that is too small may not accurately capture the variation in the broader population.

Generalization Class Diagram
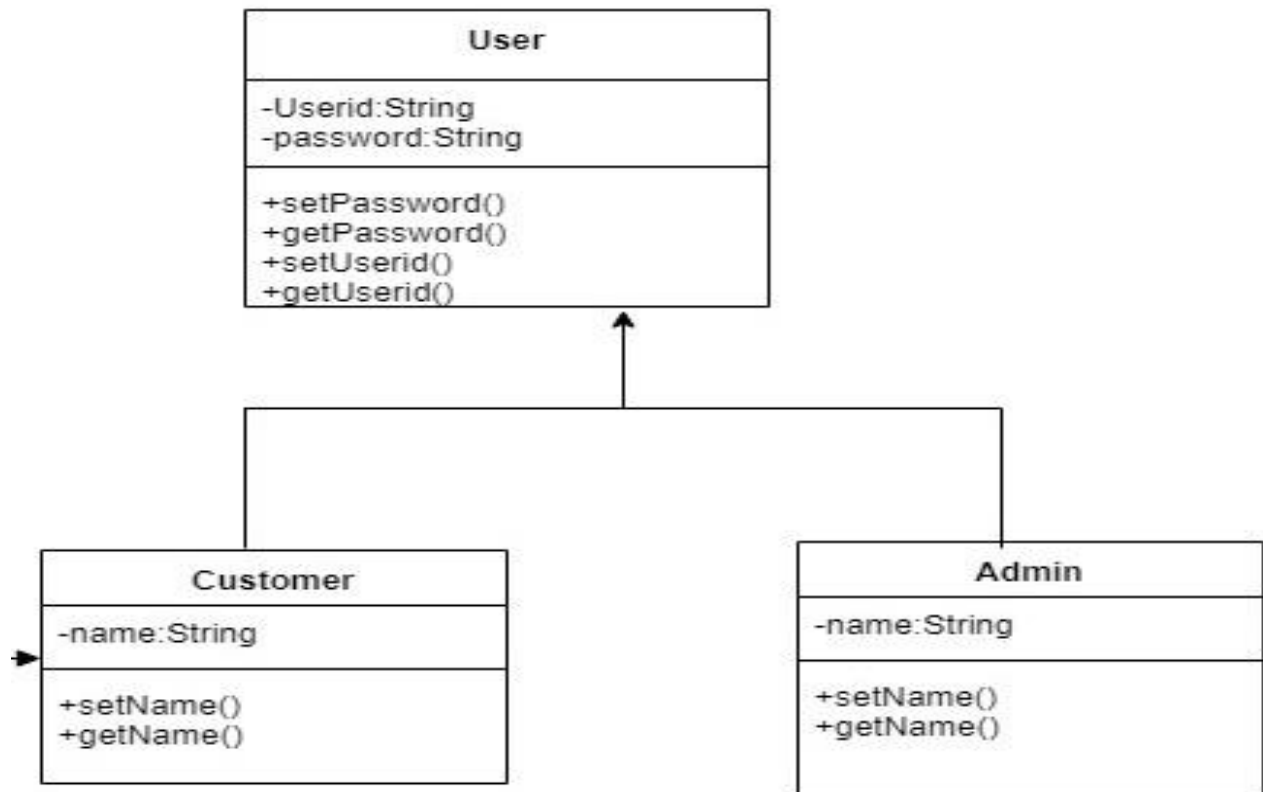
Association

What Is an Association?

An association defines a relationship between two entity objects based on common attributes. The relationship can be one-to-one or one-to-many; you can use two one-to-many associations to implement a many-to-many relationship. The association allows entity objects to access the data of other entity objects through a persistent reference.

An example of an association

An example of a relationship is a one-to-many association between departments and employees. They might have a relationship where the Dept entity object has a Deptno attribute that is related to the Deptno attribute of the Emp entity object (Dept.Deptno = Emp.Deptno), as shown in the following figure. The DEPT and EMP tables are at the bottom of the figure, and the Dept and Emp entity objects are at the top of the figure. They have a master-detail relationship.

Association Class Diagram