UNIT-1

Generalization and Specialization:

Generalization is a process of defining a superclass from a given set of semantically for subclass related entity set.

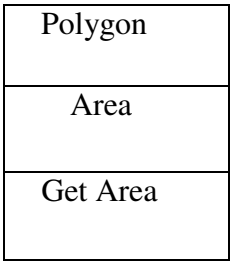
Generalization is a mechanism for combining similar class of objects into a single or more general classes. Specialization is the reverse process of generalization means creating new subclasses from an existing classes.

It is a mechanism for refining the definition of members of an object class. Specialization is the top down process. It is a process of defining one or more subclasses for the superclass and forming Superclass-Subclass relationship.

Polymorphism:

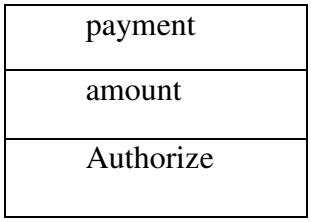
Polymorphism is a concept by which we can perform a single action in different ways. Polymorphism is one of the crucial features of object oriented approach. Polymorphism means that the same operation name many behave differently on different class. Polymorphism is a Greek word the "poly" means many and "Morph" means form.

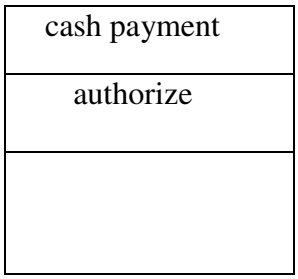
(1)Example Process of Area:



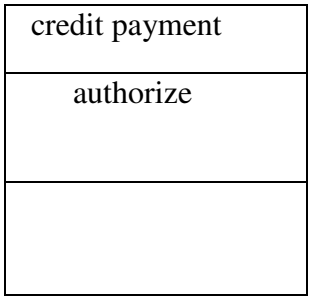
{Triangle OR Rectangle} same operations

(2) Example Process of payment type:

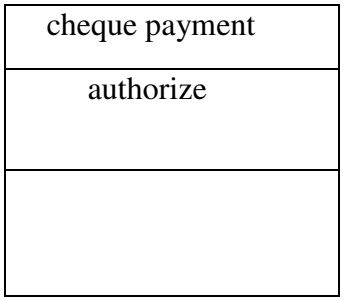




(i)



(ii)



(iii)

Genericity:

Genericity is one of the most powerful means for obtaining flexibility in programming with statically typed programming languages.

Genericity constructs take on various different forms the choice of which has a considerable impact on expressiveness modularity static check ability and efficiency properties of programs.

The genericity classes is defined as an special of undefined data they are known as contain classes they are flexible are reusable of genericity function.

Modelling introduction:

The requirement for software as delivered by typical business analysts is net efficient player insightful or will understand to develop software systems that meet the needs of

business users. Modelling is a central part of all the activities that lead up to the development of good software.

Importance of Modelling:

A model is a representation in a contain medium of something in the same or another medium.

"Models are building to better understand the system before development."

A model of a software system is made in a modelling language such as UML. The model has both cement excess and notation and can take various forms that include both picture and text.

Basic goals of Modelling:

- Models help us to visualise a system as it is raw or as we I want it to be.
- Models permit/allow us to specify the structure of behaviour of a system.
- Model give us a template that guides us in constructing a system.
- Models document that decisions we have made.

Several purposes of model:

- To capture and exactly steps requirement and domain knowledge so that all stakeholders may understand or agree on them.
- To think about the design of a system.
- To capture design decisions in a mutable form separate from the requirements.
- To generate usable work products.
- To organise, find, filter, examine of edit information about large systems.
- To explore multiple solutions economically.
- To master Complex system.

Principles of modelling:

It is using to the modelling have a wild history in all the branch of Engineering and define to the principles of modelling:

- Two choice of models has a profound influence on how a problem is attack then how the solution is shaped.
- Every model may be expressed at different levels of abstraction.
- The effective models are connected to reality.
- No single model is sufficient. Non trivial systems are best described a set of independent but related models.

Reference:

1. Google.

2. Katson, Lalit Kishore Arore.