

## Assignment No - 02

Ref. No.: 6

Date : / /

Title:-

Identify commonalities and differences between Publication, Book and Magazine classes. Title, Price, copies are common instance variable and saleCopy is common method. The difference are, Book class has author and orderCopies(). Magazine class has methods orderQty, Current issue, receiveissue(). Write a program to find how many copies of the given books are ordered and display total sale of publication.

Theory.

• Polymorphism in Java :

Polymorphism in Java is a concept by which we can perform a single action in different ways. Polymorphism is derived from 2 Greek word, poly and morphs. The word 'poly' means many and 'morphs' means forms. So polymorphism means many forms, and it occurs when we have many classes that are related to each other by inheritance.

Types of Polymorphism in Java ;

- 1] Compile-time polymorphism
- 2] Runtime polymorphism.

## 1] Compile-time Polymorphism :

~~Run-time~~ compile-time polymorphism is also known as static polymorphism or early binding. Compile-time polymorphism is a polymorphism that is resolved during the compilation process. Overloading of methods is called through the reference variable of a class. compile-time polymorphism is achieved by method overloading and operator overloading.

### Method Overloading.

method overloading occurs when a class has many methods with the same name but different parameters. Two or more methods may have the same name if they have other numbers of parameters, different data types, or different numbers of parameters and different data type.

### Operator Overloading

An operator is said to be overloaded if it can be used to perform more than one function. Operator overloading is an existing operator is given a new meaning.



## 2] Run-Time Polymorphism

Whenever an object is bound with the functionality at run time, this is known as runtime polymorphism. The runtime polymorphism can be achieved by method overriding. Java virtual machine determines the proper method to call at the runtime, not at the compile time. It is also called dynamic or late binding. Method overriding says the child class has the same method as declared in the parent class. It means if the child class provides the specific implementation of the method that has been provided by one of its parent classes then it is known as method overriding.

## Conclusion :

Hence we have successfully implemented the program of polymorphism.