

## ASSIGNMENT NO - 01

TITLE :-

Collection and Generics.

PROBLEM DEFINITION -

Develop a java application using collection frame work and generics

OBJECTIVE :-

To understand implementation of data structures using the collections provided in java  
Be able to write generic code in Java

OUTCOME :

One will be able to implement a basic system using generic and data structures from collections in Java.

THEORY :-

The Java collections framework is a set of classes that implement the commonly used data structures.

The collection framework provides both interfaces for various collections as well as class that implement them

A few collections are as follows :-

## 1. Vector -

It is a dynamic array that can grow in size to accommodate elements.

## 2. List ordered collection of objects. Insertion order is preserved.

## 3. Set - Insertion order is not preserved and only unique elements are permitted

## 4. Linked List - It uses a DLL to store elements. It does first manipulation. It implements the list &amp; deque interface.

## 5. Tree set - It is collection of homogenous elements maintained in ascending order. It uses a balanced tree.

## 6. Map - It is the organization of objects as key value pairs.

**Generics** : Generics are the provision provided by java by java to implement generic programming. Generics help simplify the code & reduce code complexity drastically as it removes extra implementations of each method/class.

→ It facilitates stronger type check of compile time.

→ It eliminates need of explicit casting of elements.

## CONCLUSION

Thus using the Java collections and generic framework we were able to implement a ~~total~~ or management system specifically.