

ex-5

## Vector :-

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1. Resizable Array / Growable Array. underlined data structure.
2. Insertion order. preserved
- (3) Duplicates are allowed.
- (4) Heterogeneous " " .
- (5) null insertion is possible
- (6) implements Serializable, Cloneable, RandomAccess.
- (7) Thread Safe. because method is synchronized.

### ⇒ Constructors :-

- (1) Vector v = new Vector();  
creates an empty vector Objects with default initial capacity 10.

new capacity = current capacity \* 2.

- (2) Vector v = new Vector(int initial capacity)  
creates an empty vector object with specified initial capacity

- (3) Vector v = new Vector(int initial capacity, int incremental capacity)

Ex - Vector v = new Vector(1000, 5)

→ ~~Creates~~

- (4) Vector v = new Vector(Collection c);  
creates an equivalent vector object for the given collection.  
This constructor maint for equivalent inter conversion b/w collection objects.

### ⇒ Vector Specific methods :-

- (i) To add objects :-

(i) add(object o) → Collection

(ii) add(int index, Object o) → ~~Link~~ List

(iii) addElement(Object o) → Vector

## ② To Remove object

remove(Object o) ——— Collection  
 removeElement(Object o) ——— Vector  
 remove (int index) ——— L  
 removeElementAt (int index) ——— V  
 clear () ——— C  
 removeAllElements () ——— V

## ③ To Get Objects :-

Object get (int index) → L  
 Object elementAt (int index) → V  
 Object firstElement () → V  
 Object LastElement () → V

## ④ other methods :-

int size ();  
 int capacity;  
 Enumeration elements

Ex:-

```

import java.util.*;

public class DemoTest
{
    public static void main (String[] args)
    {
        Vector v = new Vector();
        System.out.println (v.capacity ()); → 10
        for (int i=0; i<=10; i++)
        {
            v.addElement (i);
        }
        System.out.println (v.capacity ()); → 10
        v.addElement ("A");
        System.out.println (v.capacity ()); → 20
        System.out.println (v); → [1, 2, ..., 10, A]
    }
  
```