Array is fixed size container object whereas Vector is variable size container object. Vector is dynamically grow able array.

When you add or delete the element accordingly vector will be resized.

All elements of vector contains reference variables of Object type(since Java uses single rooted class hierarchy)

Vector class is present in java.util package

Constructors

1) Vector v = new Vector();
   Vector object is created which is capable of storing 10 elements.
   If u add 11 the element capacity is doubled, it will become 20.
2) Vector v = new Vector(5);
   Vector object is created which is capable of storing 5 elements.
   If u add 6 the element, capacity is doubled, it will become 10.
3) Vector v = new Vector(3,2);
   First argument is initial capacity & Second argument is increment size.
   If u add 4th element, capacity is incremented by 2, it will become 5.

```
import java.util.Vector;

public class VectorDemo1
{
	public static void main(String [] args)
	{
		Vector v = new Vector(3);
		System.out.println(v.size() +"\t"+v.capacity());//0 3

		//size() returns no of elements in vector

		v.add(new Integer(3));
		v.add(new Double(4.5));
		v.add("SE elex");

		System.out.println(v.size() +"\t"+v.capacity());//3 3

		v.add(new Float(3.1f));
```

```
                System.out.println(v.size() +"\t"+v.capacity());//4 6

                v.add(1, new Integer(10));

                for(int i = 0 ; i < v.size() ; i++)
                {
                        Object o = v.get(i);
                        System.out.println("Element at "+(i+1)+" : "+o);
                }

        }
}
```

Other instance methods are

Object firstElement(); // it returns first element of Vector

Object lastElement(); //it returns last element of Vector

remove method is overloaded.

v.remove(int index); //element at given index is removed

v.remove(Object o); //specified element is removed

v.add(“java”);

v.add(“oopm”);

v.add(“oop”);

v.add(“cp2”);

v.set(2, “oopa”); //set() method is used to replace object at a particular index with new object

WAP to generate integers from 1 to 99 randomly and insert into vetor.

import java.util.Vector;

```
public class VectorDemo2
{
	public static void main(String [] args)
	{
		Vector v = new Vector();
		Random g = new Random();//for random no generation

		while(true)
		{
			int x = g.nextInt(100);//generate random no between 0 to 99
			if ( x == 0)
				break;
			v.add(new Integer(x));
		}

		for(int i = 0 ; i < v.size() ; i++)
		{
			Object o = v.get(i);
			System.out.println("Element at "+(i+1)+" : "+o);
		}

	}
}
```