

Aim :- Create debug and run Java programme based on wrapper class OR vector

Theory :-

Wrapper classes :- A wrapper class is a class whose object wraps or contains primitive data type. When we create an object to a wrapper class, it contains a field and in this field, we can store primitive data types. In other words, we can wrap a primitive value in a wrapper class object.

Primitive Data
Types

Wrapper class

char

Character

bytes

Byte

short

Short

int

Integer

long

Long

Float

Float

double

Double

The eight classes of Java package are known as wrapper classes in Java.

Autoboxing :-

Automatic conversion of primitive data types to the object of their corresponding wrapper classes is known as autoboxing. Ex:- Conversion of int into Integer, long to Long, double to Double etc.

Unboxing :-

It is just the reverse process of autoboxing. Automatically converting an object of wrapper class to its corresponding primitive types is known as unboxing. Ex:- Conversion of Integer to int, Long to long, Double to Double.

Autoboxing & Vector in Java :-

Vector is like the dynamic array which can grow or shrink to its size. Unlike array we can store number of elements in it as there is no size limit. It is a part of Java Collection Framework since Java 1.2. It is found in the java.util package and implements the Vector interface. So we can use all the methods of the interface here.

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Java Vector class declaration.

```
public class Vector <E>
```

```
extends Object <E>
```

```
implements List <E> elements, Serializable
```

Java Vector constructor.

Vector class supports 4 types of constructors.

1] Vector () :- It constructs an empty vector with the default size of

2] Vector [int initial capacity] :- It constructs an empty vector with the specified initial capacity.

3] Vector [int initial capacity, int capacity increment]

4] Vector [Collection <? extends E>]

Program :-

① program :-

```
import java.util.*;
class practical5 {
    public static void main (String [] args) {
        Vector <String> vec = new Vector <String> ();
        vec.add ("Ashwin");
        vec.add ("Pratik");
        vec.add ("Yash");
        vec.add ("Rohit");
        vec.add ("Rushikesh");

        vec.addElement ("Abhishek");
        vec.addElement ("Sumit");
        vec.addElement ("Sumedh");
        System.out.println ("Elements are : " + vec);
    }
}
```

② program :-

```
class practical5-2 {
    public static void main (String [] args) {
        Double d1 = new Double (2.71828);
        Double d2 = new Double ("2.71828E-5");
        System.out.println (d1 + " = " + d2 + " --> " +
            d1.equals(d2));
    }
}
```

Conclusion:- Hence, we successfully create and run program on wrapper class and Vector.


```
C:\Users\Public\Java>javac practical5.java
```

```
C:\Users\Public\Java>java practical5
```

```
Elements are: [Pratik, Yash, Rohit, Rushikesh, Abhishek, Sumit, Sumedh]
```

```
C:\Users\Public\Java>
```



C:\Windows\System32\cmd.exe

Microsoft Windows [Version 10.0.19042.746]

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C:\Users\Public\Java\Practicals>javac practical5_2.java

C:\Users\Public\Java\Practicals>java practical5_2

2.71828=2.71828E-5-->false

C:\Users\Public\Java\Practicals>