

## GENERIC PROGRAMMING

### AIM:

To write a java program to find the maximum value from the given type of elements using a generic function.

### ALGORITHM:

1. Import the java packages.
2. Comparable interface is used to order the objects of user-defined class.
3. This interface is found in java.lang package and contains only one method named compareTo(Object).
4. The compareTo() method works by returning an int value that is either positive, negative, or zero.
5. Create a generic method max(), that can accept any type of argument.
6. Then sets the first element as the max element, and then compares all other elements with the max element using compareTo() method
7. Finally the function returns an element which has the maximum value.
8. We can call generic method by passing with different types of arguments, the compiler handles each method.

### PROGRAM:

*//File Name should be **MyGeneric.java***

```
import java.util.*; class
MyGeneric {
public static <T extends Comparable<T>> T max(T... elements)
{
    T max = elements[0];    for (T
element : elements) {        if
(element.compareTo(max) > 0)
        {
            max = element;
        }
    }
    return max;
}
```

```
}  
  
public static void main(String[] args)  
{  
    System.out.println("Integer Max: " + max(Integer.valueOf(32), Integer.valueOf(89)));  
    System.out.println("String Max: " + max("GaneshBabu", "Ganesh"));  
    System.out.println("Double Max: " + max(Double.valueOf(5.6), Double.valueOf(2.9)));  
    System.out.println("Boolean Max: " + max(Boolean.TRUE, Boolean.FALSE));  
    System.out.println("Byte Max: " + max(Byte.MIN_VALUE, Byte.MAX_VALUE));  
}  
}
```

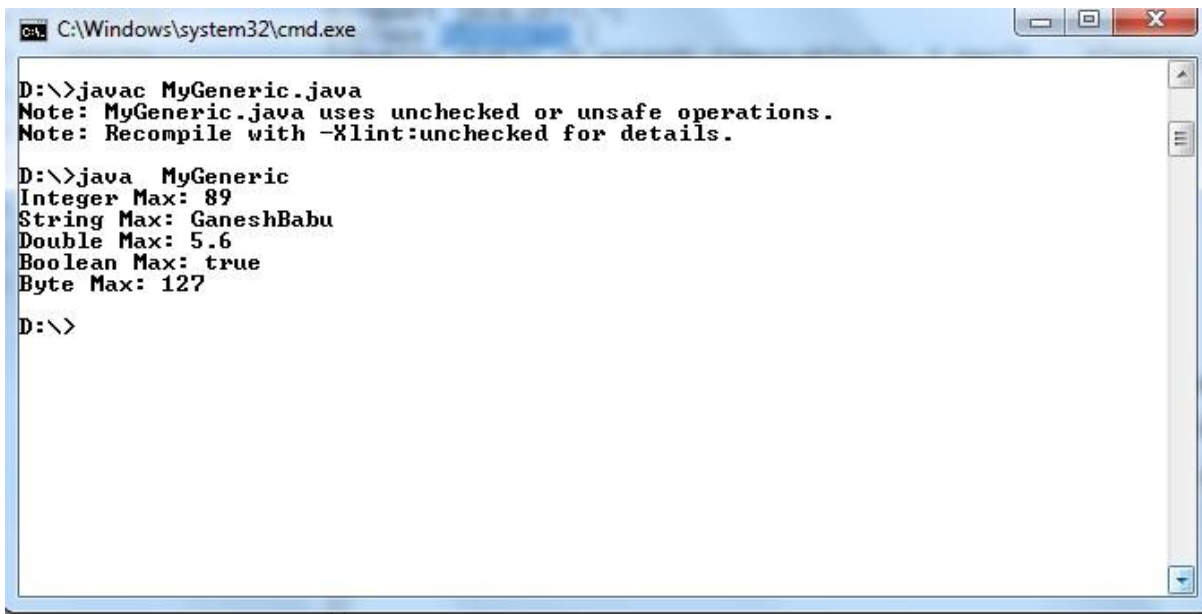
### NOTE:

To Compile: *javac*

*MyGeneric.java* To Run:

*java MyGeneric*

### OUTPUT:



The screenshot shows a Windows command prompt window titled "C:\Windows\system32\cmd.exe". The user has entered the following commands and received the following output:

```
D:\>javac MyGeneric.java  
Note: MyGeneric.java uses unchecked or unsafe operations.  
Note: Recompile with -Xlint:unchecked for details.  
  
D:\>java MyGeneric  
Integer Max: 89  
String Max: GaneshBabu  
Double Max: 5.6  
Boolean Max: true  
Byte Max: 127  
  
D:\>
```

**RESULT:**

Thus the Implementation for finding the maximum value from the given type of elements using a generic function has been successfully executed.