



PUNE INSTITUTE OF COMPUTER TECHNOLOGY, PUNE -43

Department of Electronics and Telecommunication Engineering

ASSESSMENT YEAR: - 2021-22

CLASS: - TE-V

Subject: - Advanced Java Programming

Expt. No: 8

LAB Ref: ETC/2021-22/

ROLL NO:32147

SUBMISSION DATE:

Title: - Demonstrate Status of Window

Problem Statement: - Write a Program in Java to demonstrate the Window Functions

Objectives: -

To Learn and Implement the concepts of Window Listener

Theory (Write Theory of the new concept demonstrated in this Assignment)

The Java WindowListener is notified whenever you change the state of window.

It is notified against WindowEvent.

The WindowListener interface is found in java.awt.event package.

It has the following 7 methods in it –

1. void windowActivated(WindowEvent e)

Invoked when the Window is set to be the active Window

2. void windowClosed(WindowEvent e)

Invoked when a window has been closed as the result of calling dispose on the window

3. void windowClosing(WindowEvent e)

Invoked when the user attempts to close the window from the window's system menu

4. void windowDeactivated(WindowEvent e)

Invoked when a Window is no longer the active Window

5. void windowDeiconified(WindowEvent e)

Invoked when a window is changed from a minimized to a normal state.

6 void windowIconified(WindowEvent e)

Invoked when a window is changed from a normal to a minimized state.

7 void windowOpened(WindowEvent e)

Invoked the first time a window is made visible

8 void windowLostFocus(WindowEvent e)

Invoked when the Window is no longer the focused Window, which means that keyboard events will no longer be delivered to the Window or any of its subcomponents

9 void windowStateChanged(WindowEvent e)

Invoked when a window state is changed.

Window Adapter Class –

The class WindowAdapter is an abstract (adapter) class for receiving window events.

All methods of this class are empty.

This class is convenience class for creating listener objects.

Use of Adapter class:

An adapter class provides the default implementation of all methods in an event listener interface. Adapter classes are very useful when you want to process only few of the events that are handled by a particular event listener interface.

Following is the declaration for java.awt.event.WindowAdapter class:

```
public abstract class WindowAdapter
    extends Object
    implements WindowListener, WindowStateListener, WindowFocusListener
```

Syntax for WindowListener is as follows –

```
class class_name implements WindowListener {
    public void windowOpened(WindowEvent e) {
    }

    public void windowClosing(WindowEvent e) {
        dispose();
    }

    public void windowClosed(WindowEvent e) {
    }

    public void windowIconified(WindowEvent e) {
    }

    public void windowDeiconified(WindowEvent e) {
    }

    public void windowActivated(WindowEvent e) {
    }

    public void windowDeactivated(WindowEvent e) {
    }
}
```

Diagram: -

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Learning Outcomes: -		
	1	Studied Window Events in Java
	2	Studied and implemented various methods in Java
	3	Learnt and Studied the Window Listener methods in Java
	4	Learnt the importance of window events and listener interactions in Java

Continuous Assessment			
RPP (out of 5)	SPO (out of 5)	Total (Out of 10)	Sign
			Date: -

#(RPP – Regularity, Punctuality, Performance), (SPO – Submission, Presentation, Oral)

Important Questions: -	
1.	What is a Window in Java?
2.	What is a WindowEvent in Java?
3.	What is a WindowListener?
4.	Which are the different methods of the WindowListener?
5.	State the importance of WindowListeners in Java?
6.	What is a Window Adapter Class?