javaTpoint

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Java Adapter Classes

Java adapter classes *provide the default implementation of listener interfaces*. If you inherit the adapter class, you will not be forced to provide the implementation of all the methods of listener interfaces. So it *saves code*.

The adapter classes are found in **java.awt.event**, **java.awt.dnd** and **javax.swing.event** packages. The Adapter classes with their corresponding listener interfaces are given below.

java.awt.event Adapter classes

Adapter class	Listener interface
WindowAdapter	WindowListener
KeyAdapter	KeyListener
MouseAdapter	MouseListener
MouseMotionAdapter	MouseMotionListener
FocusAdapter	FocusListener
ComponentAdapter	ComponentListener
ContainerAdapter	ContainerListener
HierarchyBoundsAdapter	HierarchyBoundsListener

java.awt.dnd Adapter classes

Adapter class	Listener interface
DragSourceAdapter	DragSourceListener
DragTargetAdapter	DragTargetListener

javax.swing.event Adapter classes

Adapter class	Listener interface
MouseInputAdapter	MouseInputListener
InternalFrameAdapter	InternalFrameListener

Java WindowAdapter Example

```java
import java.awt.*;
import java.awt.event.*;
public class AdapterExample{
    Frame f;
    AdapterExample(){
        f=new Frame("Window Ada
        f.addWindowListener(new
{

            public void windowClosi
                f.dispose();
            }
        });


        f.setSize(400,400);
        f.setLayout(null);
        f.setVisible(true);
    }
public static void main(String[] a
    new AdapterExample();
}
}
```

Output:
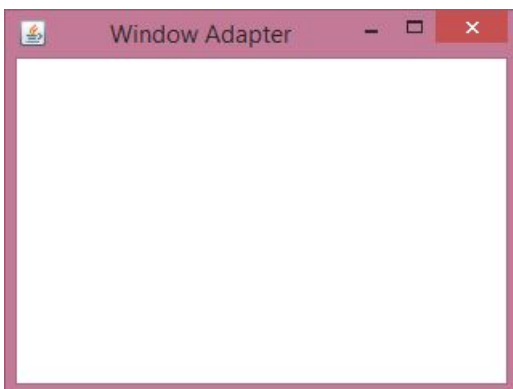
Java MouseAdapter Example

```java
import java.awt.*;
import java.awt.event.*;
public class MouseAdapterExamp
    Frame f;
    MouseAdapterExample(){
        f=new Frame("Mouse Adap
        f.addMouseListener(this);

        f.setSize(300,300);
        f.setLayout(null);
        f.setVisible(true);
    }
    public void mouseClicked(Mou
        Graphics g=f.getGraphics()
        g.setColor(Color.BLUE);
        g.fillOval(e.getX(),e.getY()
    }

public static void main(String[] a
    new MouseAdapterExample();
}
}
```
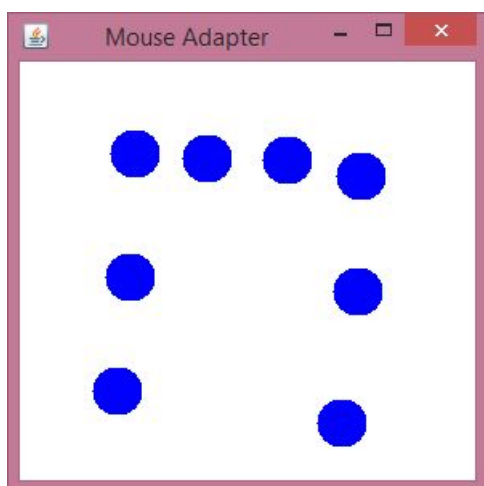
Output:

Java MouseMotionAdapter Example

```java
import java.awt.*;
import java.awt.event.*;
public class MouseMotionAdapter
    Frame f;
    MouseMotionAdapterExample
{

        f=new Frame("Mouse Motio
        f.addMouseMotionListener(f

        f.setSize(300,300);
        f.setLayout(null);
        f.setVisible(true);
    }
public void mouseDragged(Mouse
    Graphics g=f.getGraphics();
    g.setColor(Color.ORANGE);
    g.fillOval(e.getX(),e.getY(),20
}
public static void main(String[] a
    new MouseMotionAdapterExar
}
}
```
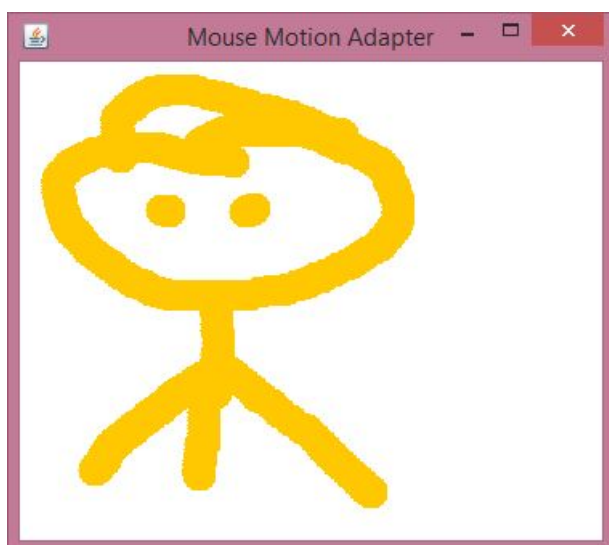
Output:

Java KeyAdapter Example

```
import java.awt.*;
import java.awt.event.*;
public class KeyAdapterExample
    Label l;
    TextArea area;
    Frame f;
    KeyAdapterExample(){
        f=new Frame("Key Adapter
        l=new Label();
        l.setBounds(20,50,200,20);
        area=new TextArea();
        area.setBounds(20,80,300,
        area.addKeyListener(this);

        f.add(l);f.add(area);
        f.setSize(400,400);
        f.setLayout(null);
        f.setVisible(true);
    }
    public void keyReleased(KeyE
        String text=area.getText();
        String words[]=text.split("\
        l.setText("Words: "+words.
    }

    public static void main(String
        new KeyAdapterExample();
    }
}
```
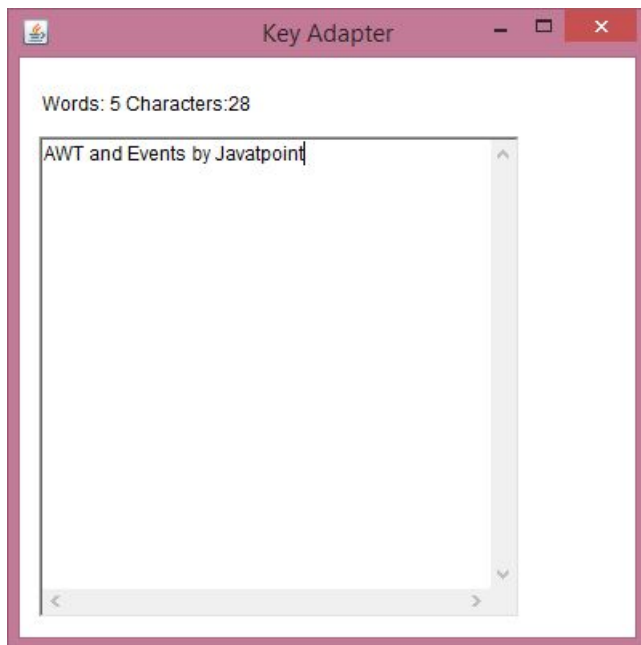
Output:
```

Words: 5 Characters:28

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