

Typesetting Program Code Using the `listings` Package

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Listings

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Only simple examples are shown here; see the package documentation file for full descriptions/examples.

1 Listing embedded in \LaTeX source

```
for(i = 0; i < 10; i++)
{
    // increment the pointer
    *p++ = i;
}
```

2 Inline Code

the call `socket()` creates a socket.

3 Background Color, Line Numbers

Listing 1: My MATLAB Code

```
for k=1:10
    array(k, :) = ones(4,1);
end
```

See Listing 1.

4 Imported Source File

Listing from source file SimpleButtons.java

Listing 2: Multi-Page Java Code

```
// SimpleButtons.java
// A basic building-block with
// - two buttons, each with a mouse listener
// - a text area for output
// some labels
//
// John Leis
// July 2001

import java.applet.*;
import java.awt.*;
import java.awt.event.*;           // version 2 events

public class SimpleButtons extends Applet
{
    public TextArea ta;

    public SimpleButtons ()
    {
    }

    public void init ()
    {
        Label label;

        add(new Label("Something", Label.CENTER));

        label = new Label("something_else", Label.CENTER);
        label.setBackground(Color.blue);
        label.setForeground(Color.yellow);
        add(label);

        ta = new TextArea("text_output\n", 12, 50);
        ta.setBackground(Color.blue);
        ta.setBackground(Color.yellow);
        add(ta);
        add(new SimpleButtonOne());
        add(new SimpleButtonTwo());

        setBackground(Color.blue);
    }

    // complete specialized button object which includes a mouse listener
    class SimpleButtonOne extends Button
    {
        public SimpleButtonOne ()
```

```

    {
        super("_Button_One_");
        addMouseListener(new SimpleButtonOneMouseListener());
    }

class SimpleButtonOneMouseListener extends MouseAdapter
{
    public SimpleButtonOneMouseListener()
    {
    }

    public void mouseClicked(MouseEvent mouseEvent)
    {
        System.out.println("Button_one_clicked");
        ta.append("button_one_clicked\n");
    }
}

class SimpleButtonTwo extends Button
{
    public SimpleButtonTwo()
    {
        super("_Button_Two_");
        addMouseListener(new SimpleButtonTwoMouseListener());
    }

class SimpleButtonTwoMouseListener extends MouseAdapter
{
    public SimpleButtonTwoMouseListener()
    {
    }

    public void mouseClicked(MouseEvent mouseEvent)
    {
        System.out.println("Button_two_clicked");
        ta.append("button_two_clicked\n");
    }
}
}
}

```

5 Continued Listings

```
for(i = 0; i < 10; i++)  
{  
    // increment the pointer  
    *p++ = i;  
}
```

and later...

```
for( i = 0; i < 10; i++)  
{  
    for( j = 0; j < 10; j++)  
    {  
    }  
}
```

6 Embedded Comments

```
// this code is ©  
for( i = 0; i < 10; i++)  
{  
}  
// force continuation on next page
```

```
for( i = 0; i < 10; i++)  
{  
    for( j = 0; j < 10; j++)  
    {  
        // calculate  $a_{ij}$   
        a[i][j] = b[j][i];  
    }  
}
```

7 Literate Programming

```
a ← b ∩ 0xf;  
for(i ← 0; i < 10; i++)  
{  
    // increment the pointer  
    *p++ ← i;  
    if( *p ≤ 0xff )  
    {  
    }  
}
```