Graphics Programming with GDI+

Mahesh Chand

Addison-Wesley

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Color Figures

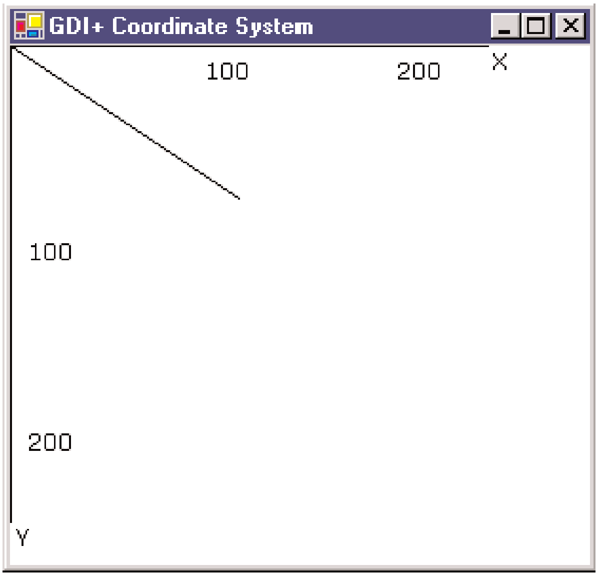
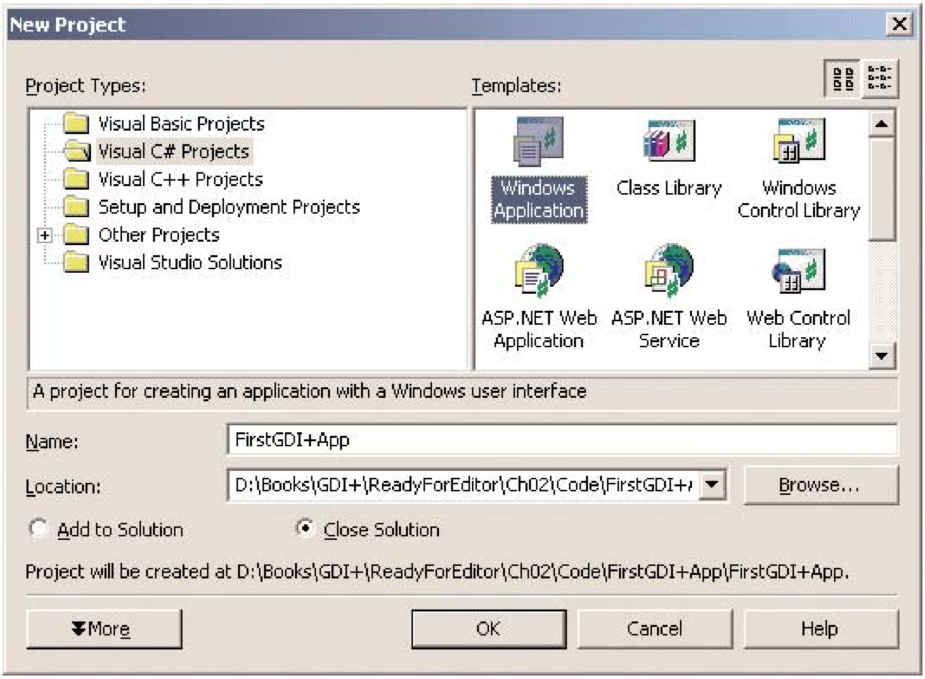


FIGURE 2.4: Drawing a line from point (0, 0) to point (120, 80)



Project Types:

- Visual Basic Projects
- Visual C# Projects
- Visual C++ Projects
- Setup and Deployment Projects
- Other Projects
- Visual Studio Solutions

Templates:

- Windows Application
- Class Library
- Windows Control Library
- ASP.NET Web Application
- ASP.NET Web Service
- Web Control Library

A project for creating an application with a Windows user interface

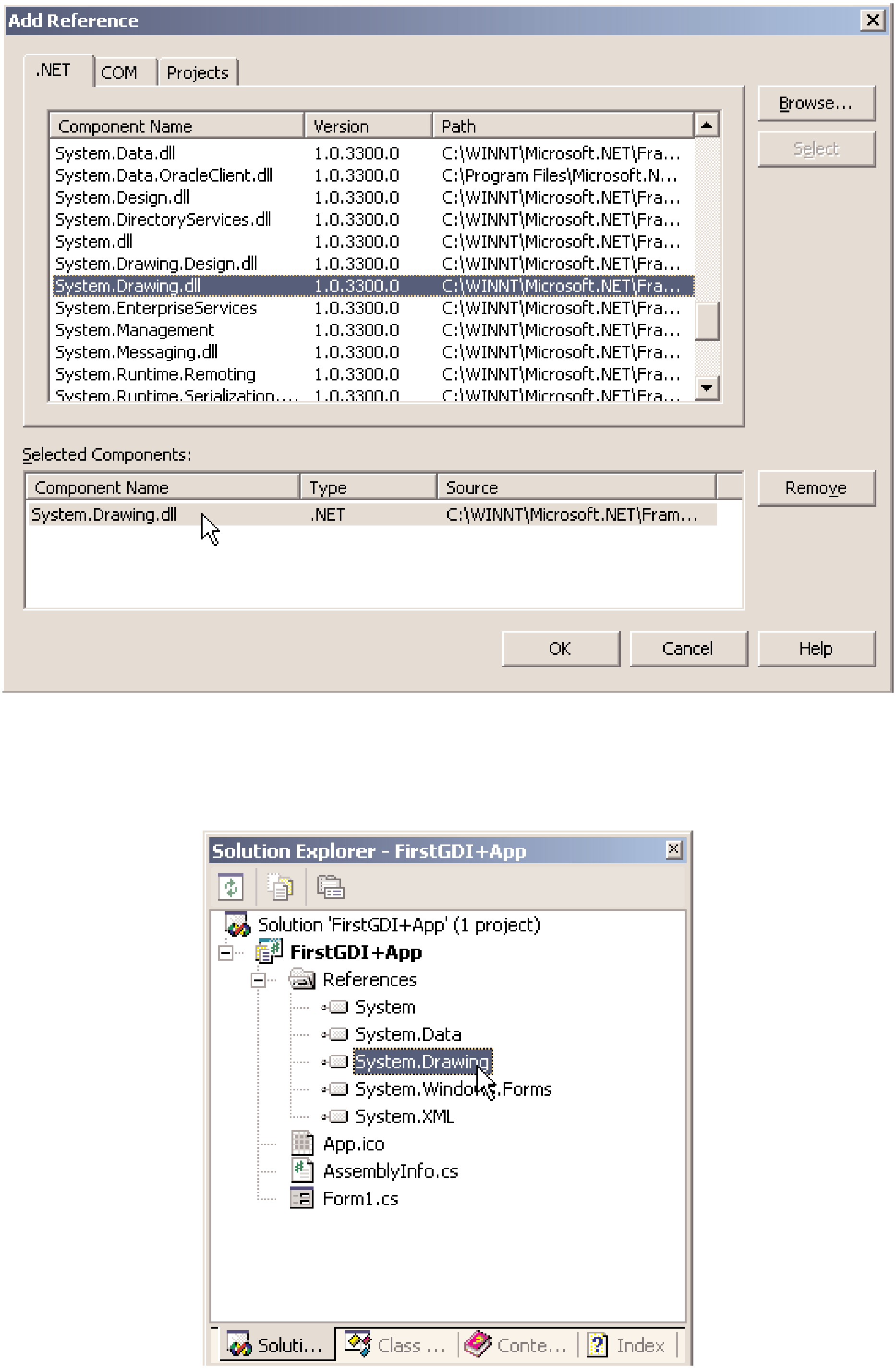
Name: FirstGDI+App

Location: D:\Books\GDI+\ReadyForEditor\Ch02\Code\FirstGDI+/

○ Add to Solution ● Close Solution

Project will be created at D:\Books\GDI+\ReadyForEditor\Ch02\Code\FirstGDI+App\FirstGDI+App.

FIGURE 2.5: Creating a Windows application



Add Reference

Component Name	Version	Path
System.Data.dll	1.0.3300.0	C:\WINNT\Microsoft.NET\Fra...
System.Data.OracleClient.dll	1.0.3300.0	C:\Program Files\Microsoft.N...
System.Design.dll	1.0.3300.0	C:\WINNT\Microsoft.NET\Fra...
System.DirectoryServices.dll	1.0.3300.0	C:\WINNT\Microsoft.NET\Fra...
System.dll	1.0.3300.0	C:\WINNT\Microsoft.NET\Fra...
System.Drawing.Design.dll	1.0.3300.0	C:\WINNT\Microsoft.NET\Fra...
System.Drawing.dll	1.0.3300.0	C:\WINNT\Microsoft.NET\Fra...
System.EnterpriseServices	1.0.3300.0	C:\WINNT\Microsoft.NET\Fra...
System.Management	1.0.3300.0	C:\WINNT\Microsoft.NET\Fra...
System.Messaging.dll	1.0.3300.0	C:\WINNT\Microsoft.NET\Fra...
System.Runtime.Remoting	1.0.3300.0	C:\WINNT\Microsoft.NET\Fra...
System.Runtime.Serialization....	1.0.3300.0	C:\WINNT\Microsoft.NET\Fra...

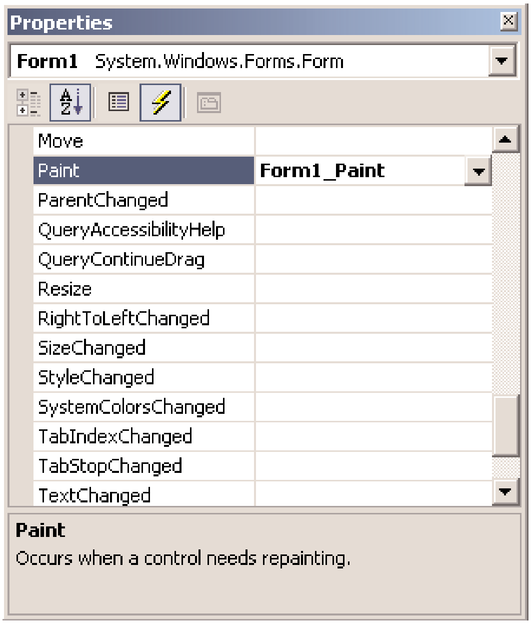
Selected Components:

Component Name	Type	Source
System.Drawing.dll	.NET	C:\WINNT\Microsoft.NET\Fram...

Solution Explorer - FirstGDI+App

Solution 'FirstGDI+App' (1 project)
FirstGDI+App
References
System
System.Data
System.Drawing
System.Windows.Forms
System.XML
App.ico
AssemblyInfo.cs
Form1.cs

FIGURE 2.7: The System.Drawing namespace in a project



Properties

Form1 System.Windows.Forms.Form

Move	
Paint	Form1_Paint
ParentChanged	
QueryAccessibilityHelp	
QueryContinueDrag	
Resize	
RightToLeftChanged	
SizeChanged	
StyleChanged	
SystemColorsChanged	
TabIndexChanged	
TabStopChanged	
TextChanged	

Paint

Occurs when a control needs repainting.

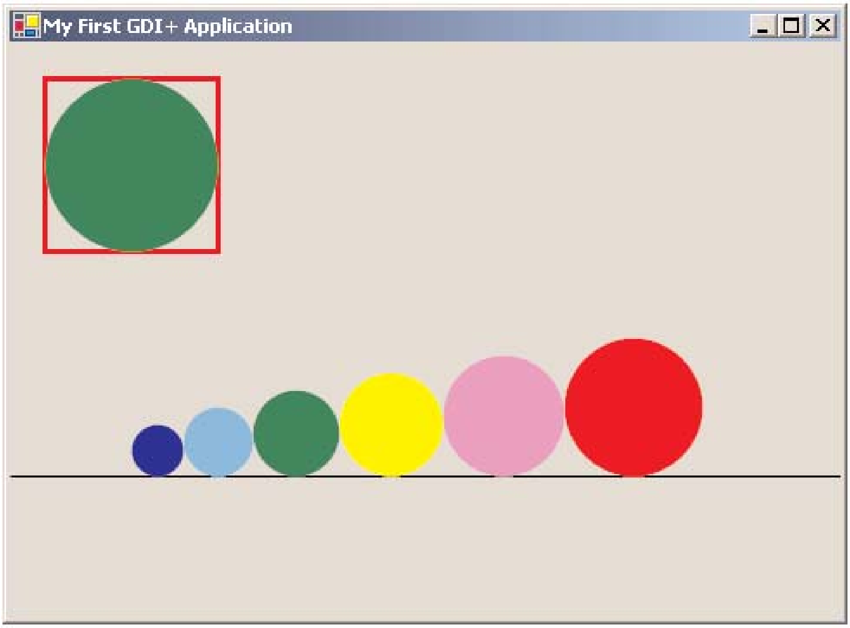
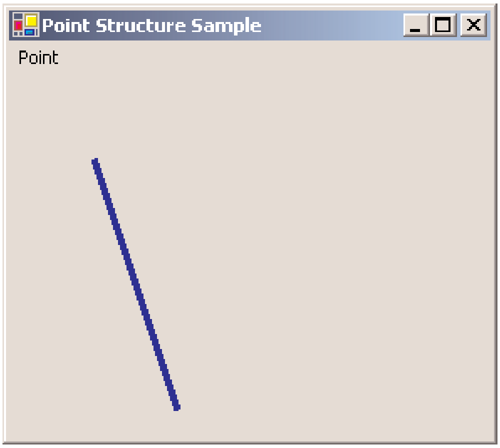


FIGURE 2.9: Your first GDI+ application



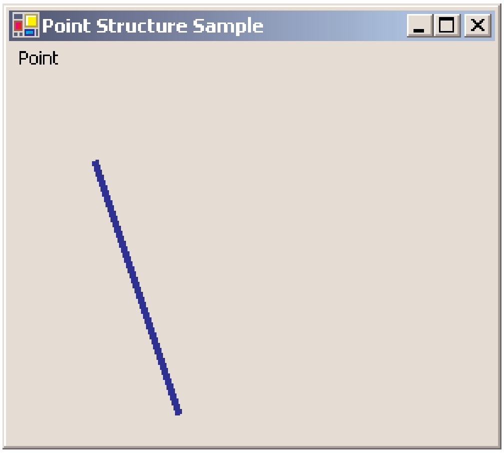
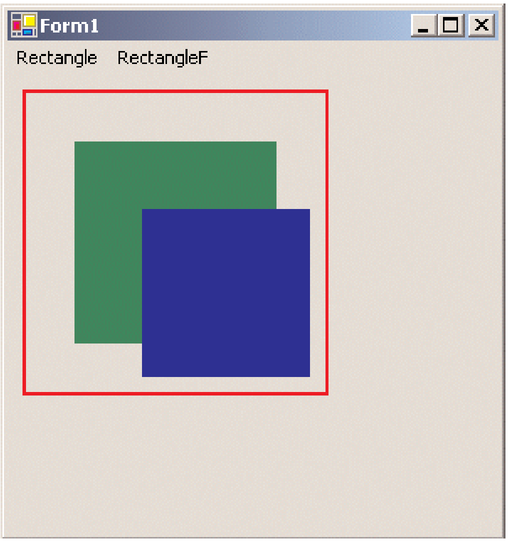
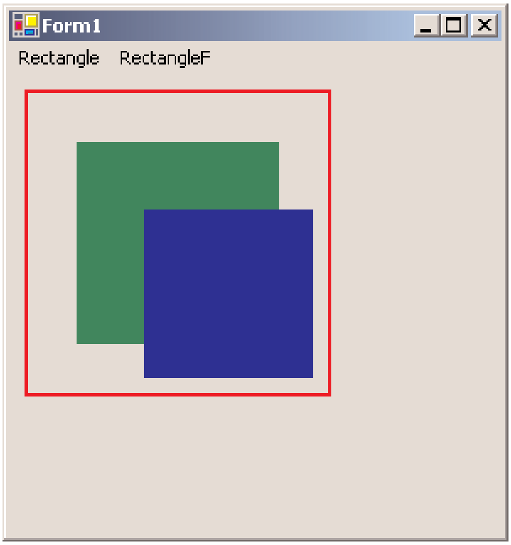


FIGURE 2.11: Using PointF to draw a line


Form1
Rectangle
RectangleF


Form1
Rectangle
RectangleF

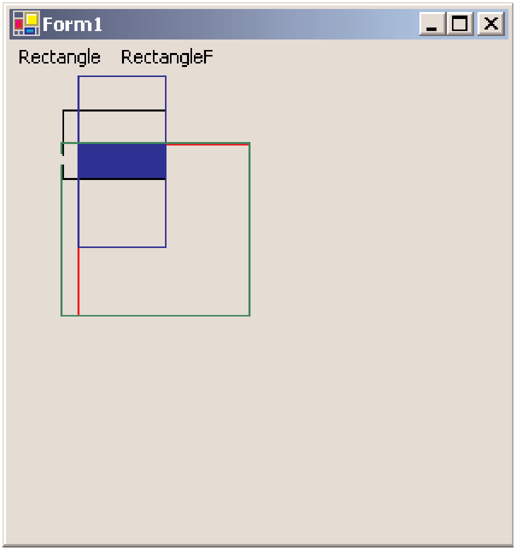
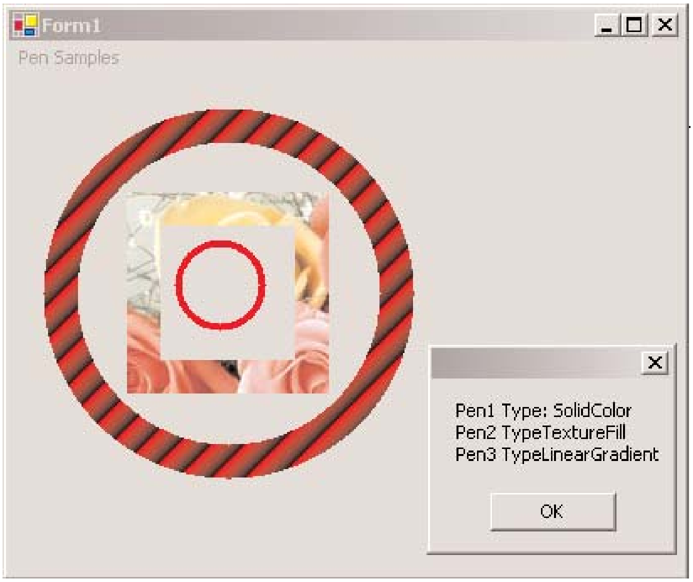


FIGURE 2.14: Using the `Round`, `Truncate`, `Union`, `Inflate`, `Ceiling`, and `Intersect` methods of `Rectangle`



Pen1 Type: SolidColor
Pen2 TypeTextureFill
Pen3 TypeLinearGradient

FIGURE 3.20: A curve-drawing application

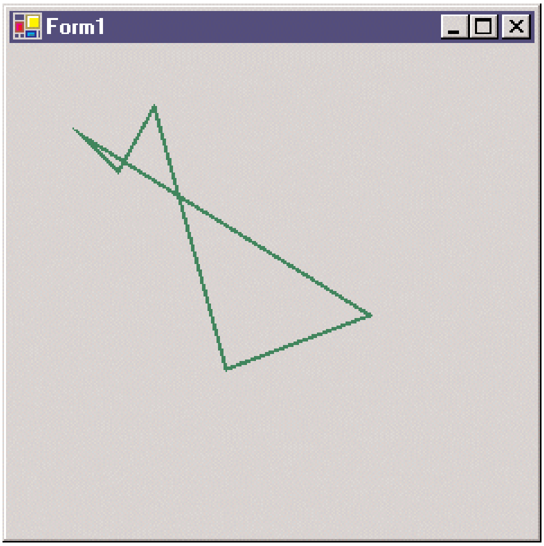


FIGURE 3.26: Drawing a polygon

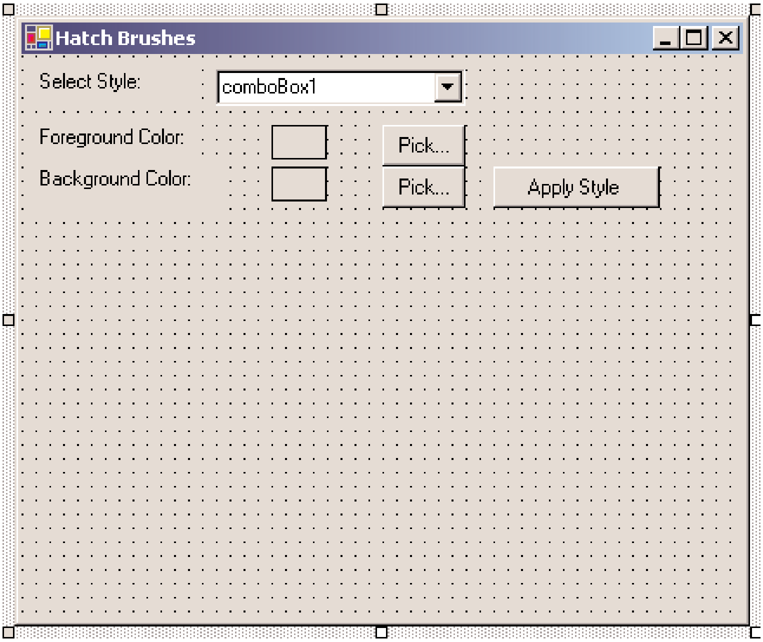
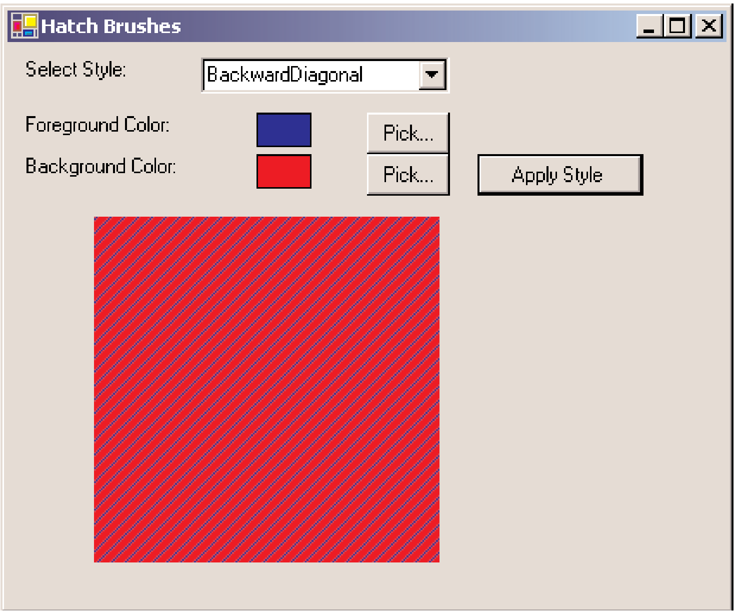


FIGURE 4.4: A sample hatch brush application

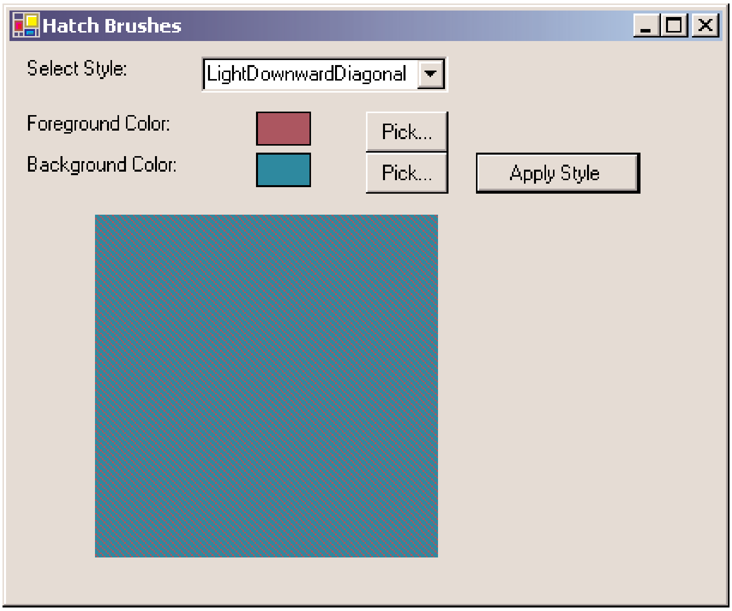


Select Style: BackwardDiagonal

Foreground Color: 🟦

Background Color: 🟥

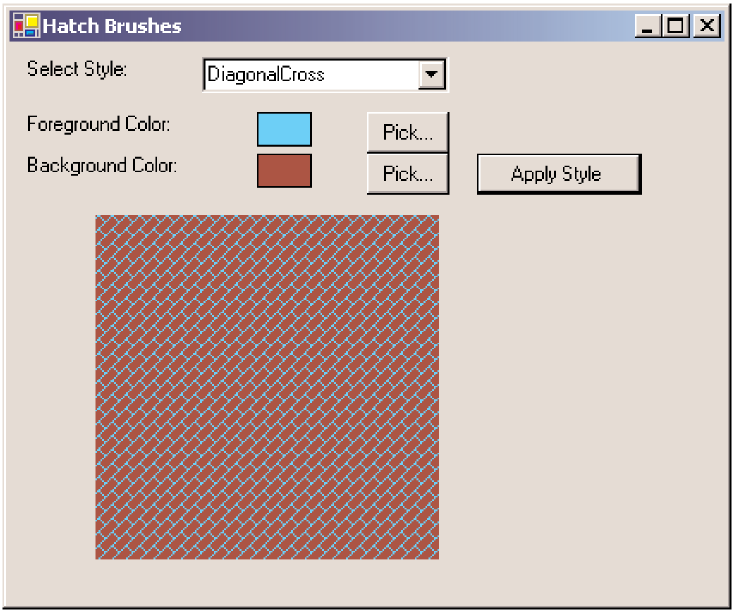
FIGURE 4.5: The default hatch style rectangle



Select Style: LightDownwardDiagonal

Foreground Color: 🟥

Background Color: 🟦



Select Style: DiagonalCross

Foreground Color:

Background Color:

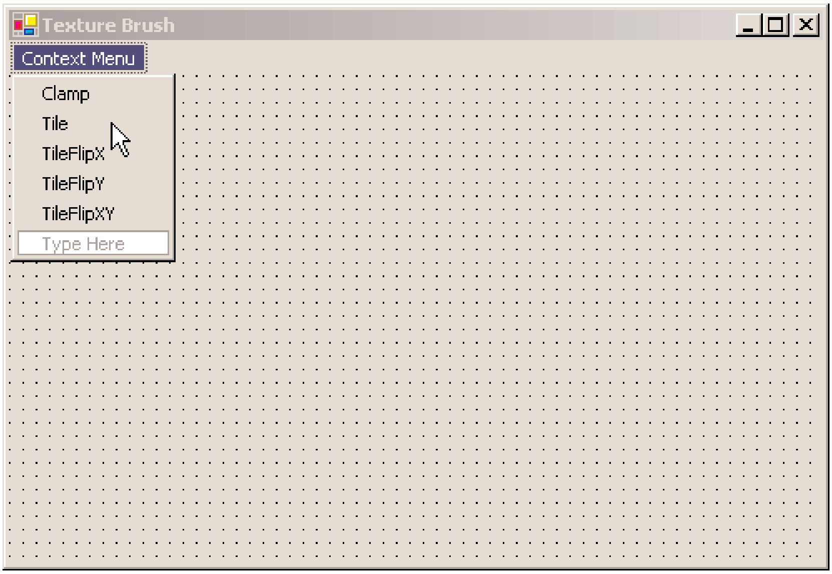


FIGURE 4.8: The texture brush application

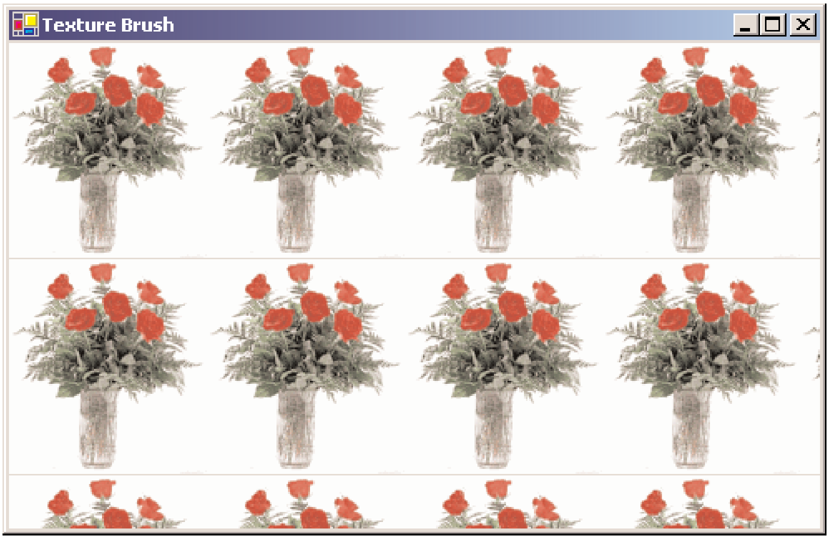


FIGURE 4.9: Using texture brushes

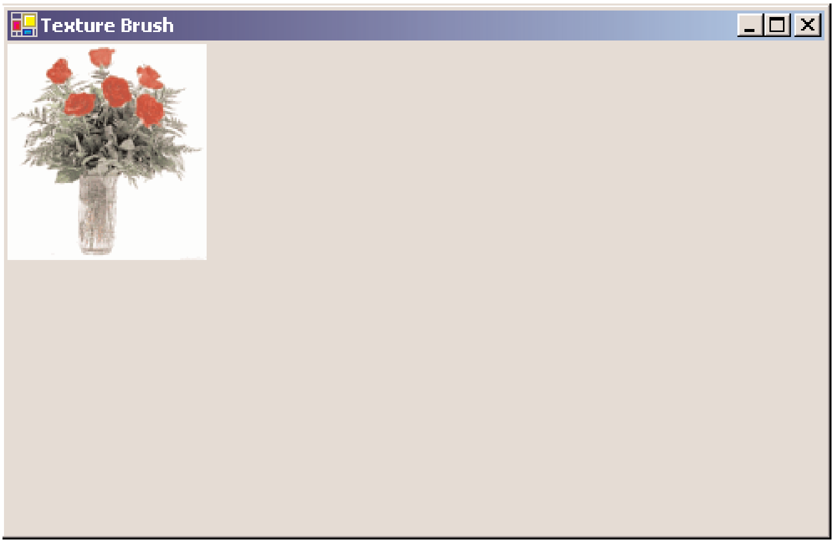


FIGURE 4.10: Clamping a texture

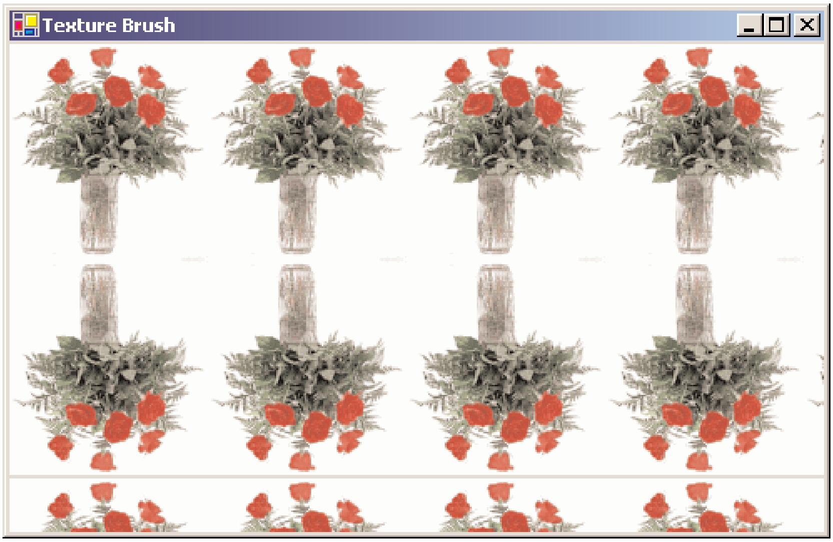


FIGURE 4.11: The TileFlipY texture option

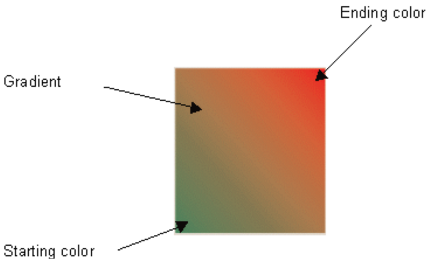


FIGURE 4.12: A color gradient

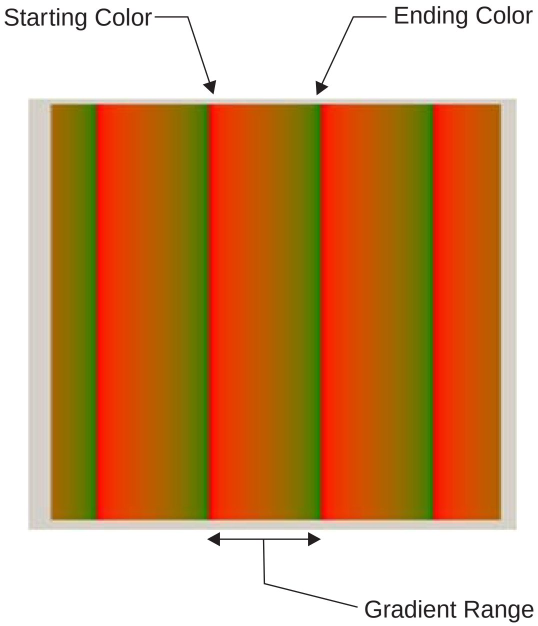


FIGURE 4.13: A gradient pattern with pattern repetition

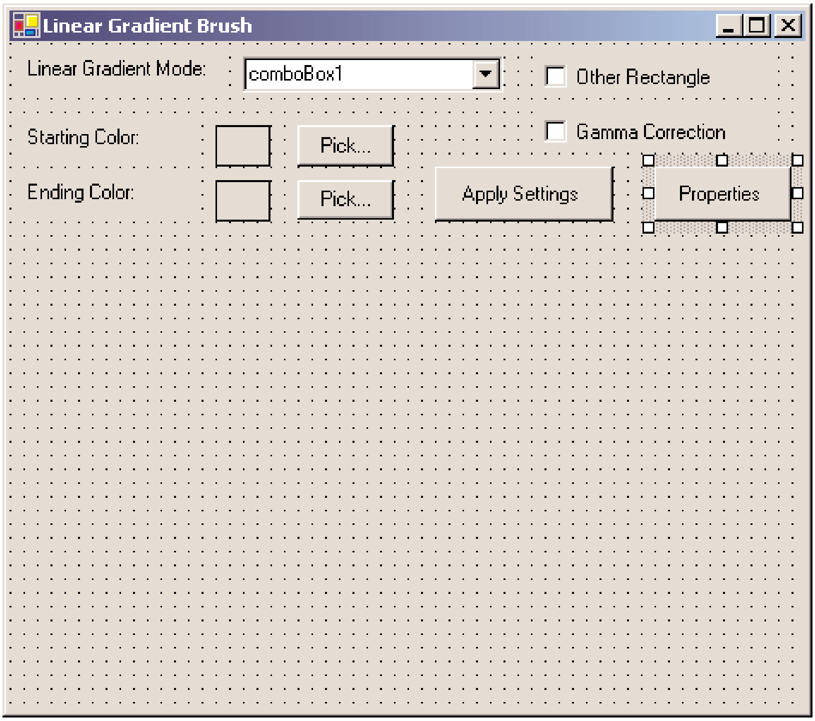
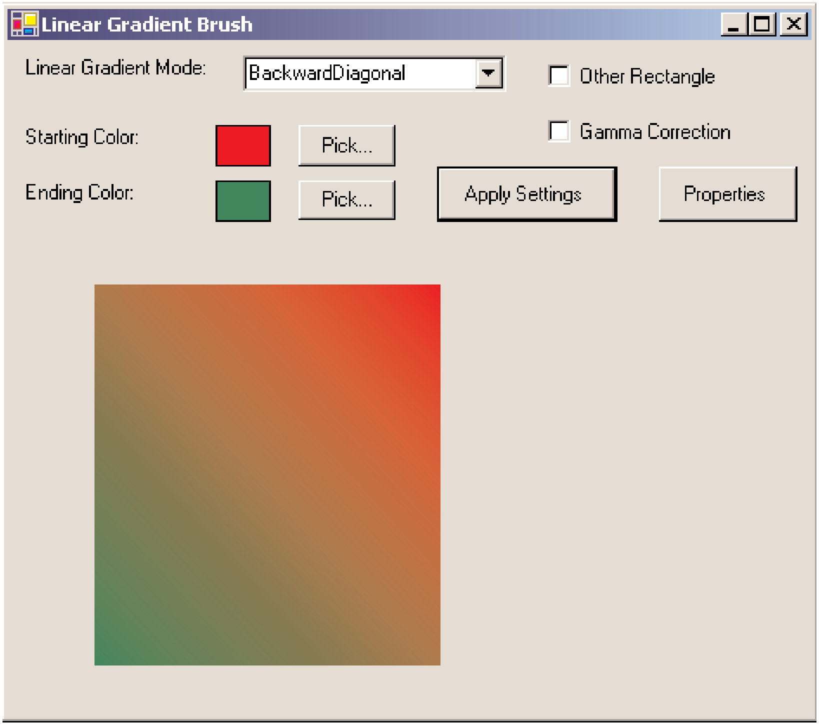


FIGURE 4.14: Our linear gradient brush application



Linear Gradient Mode: BackwardDiagonal

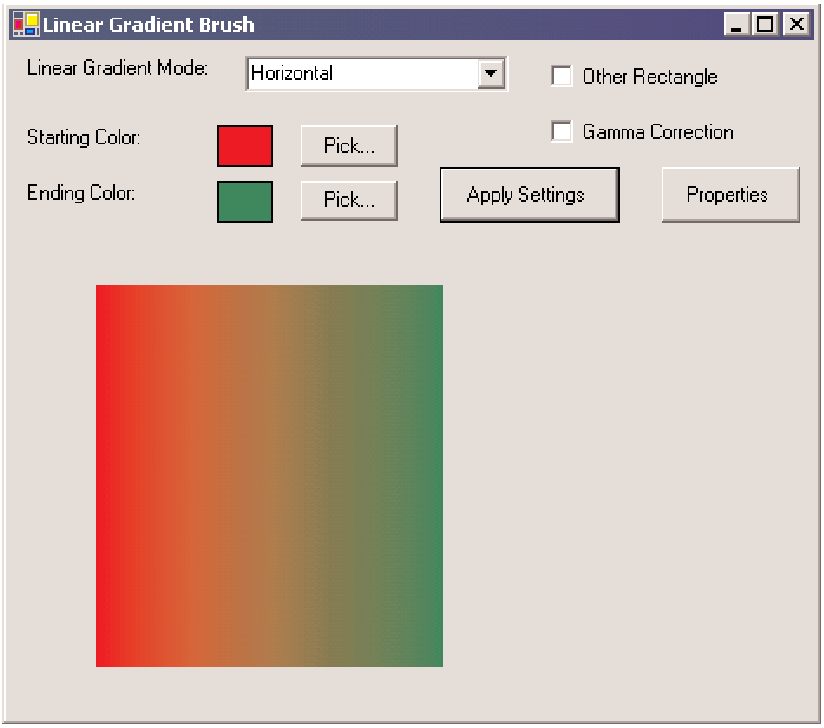
□ Other Rectangle

□ Gamma Correction

Starting Color: 🟥

Ending Color: 🟩

FIGURE 4.15: The default linear gradient brush output



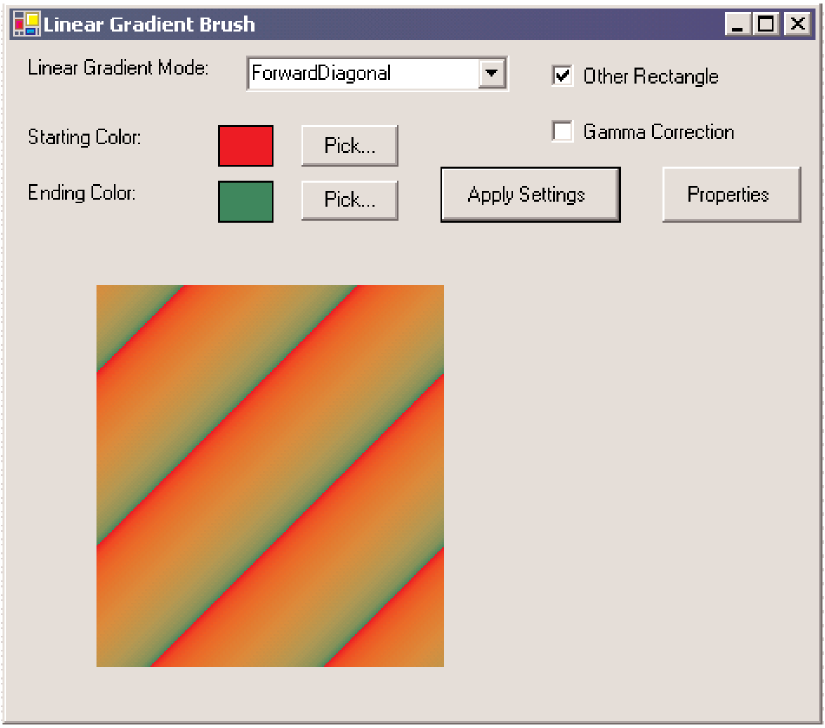
Linear Gradient Mode: Horizontal

□ Other Rectangle

□ Gamma Correction

Starting Color: 🟥

Ending Color: 🟩



Linear Gradient Mode: ForwardDiagonal

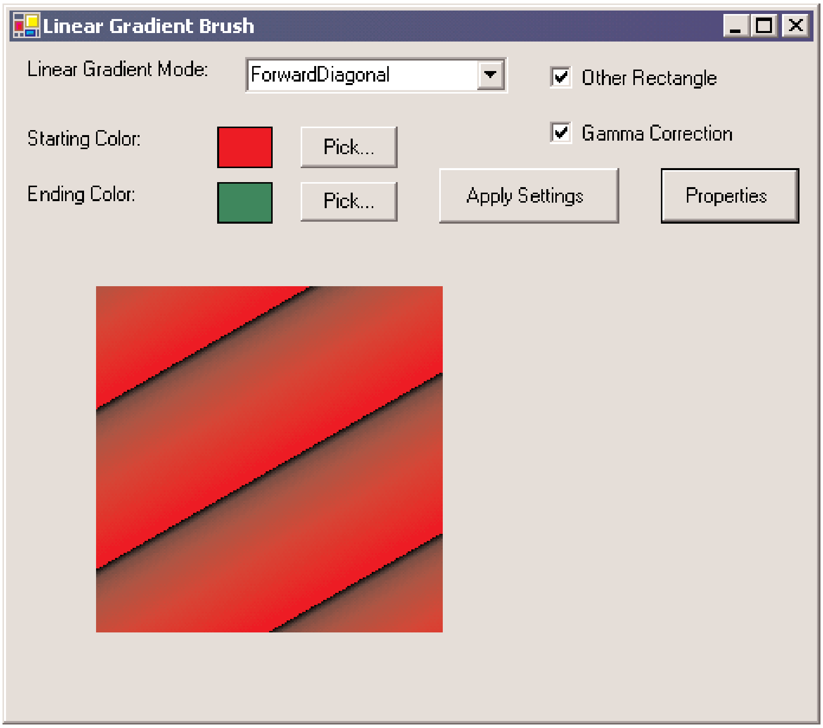
☑ Other Rectangle

□ Gamma Correction

Starting Color: 🟥

Ending Color: 🟩

FIGURE 4.17: Using a rectangle in a linear gradient brush



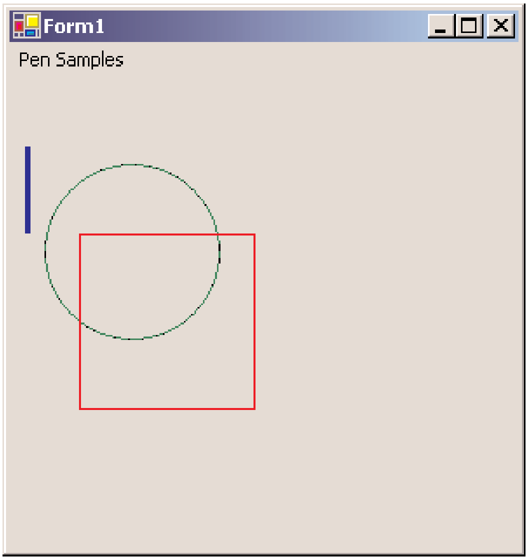
Linear Gradient Mode: ForwardDiagonal

☑ Other Rectangle

☑ Gamma Correction

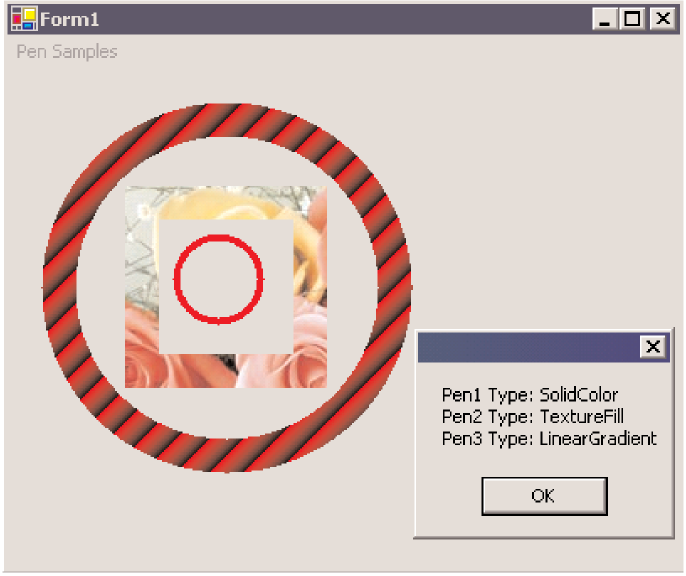
Starting Color: 🟥

Ending Color: 🟩



Pen Samples

FIGURE 4.19: Creating and using pens



Pen1 Type: SolidColor
Pen2 Type: TextureFill
Pen3 Type: LinearGradient

FIGURE 4.20: Displaying pen types

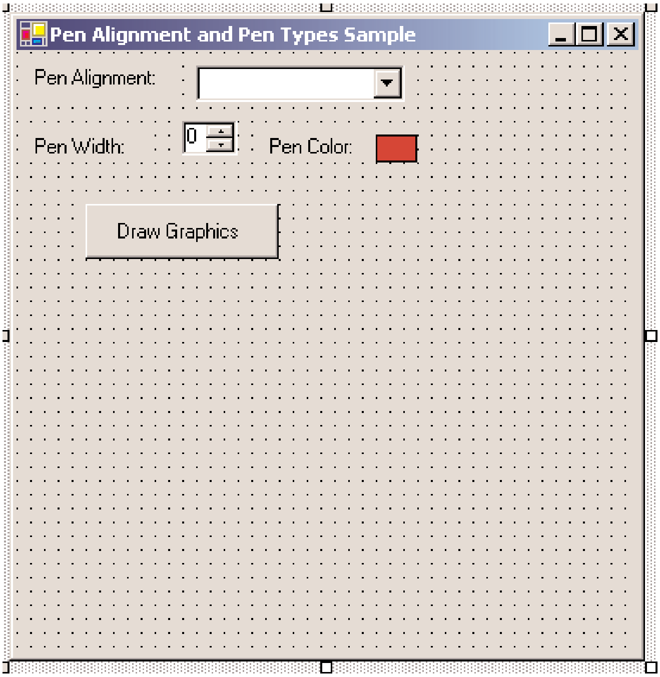
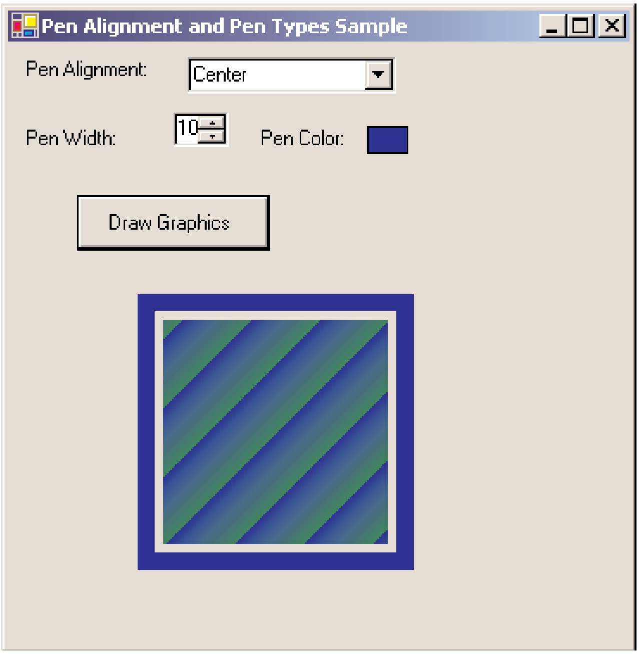


FIGURE 4.21: Our pen alignment application

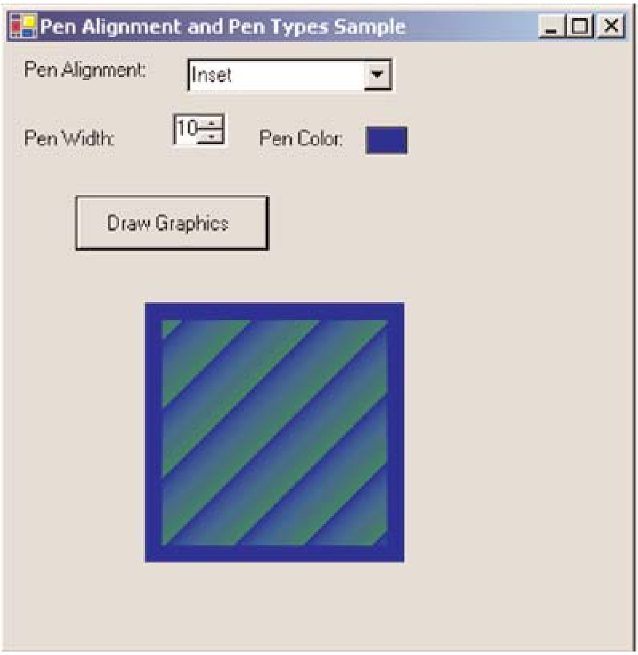


Pen Alignment: Center

Pen Width: 10

Pen Color:

FIGURE 4.22: Drawing with center pen alignment



Pen Alignment: Inset

Pen Width: 10

Pen Color:

FIGURE 4.23: Drawing with inset pen alignment

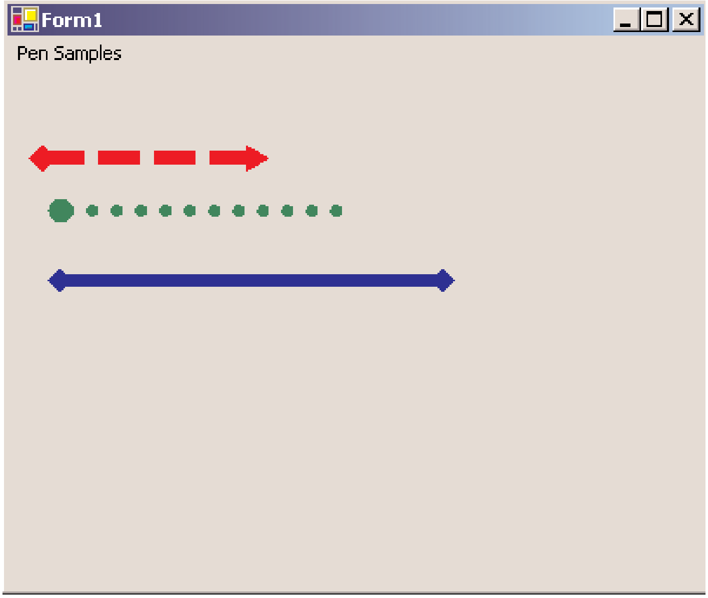


FIGURE 4.25: Drawing dashed lines with different cap styles

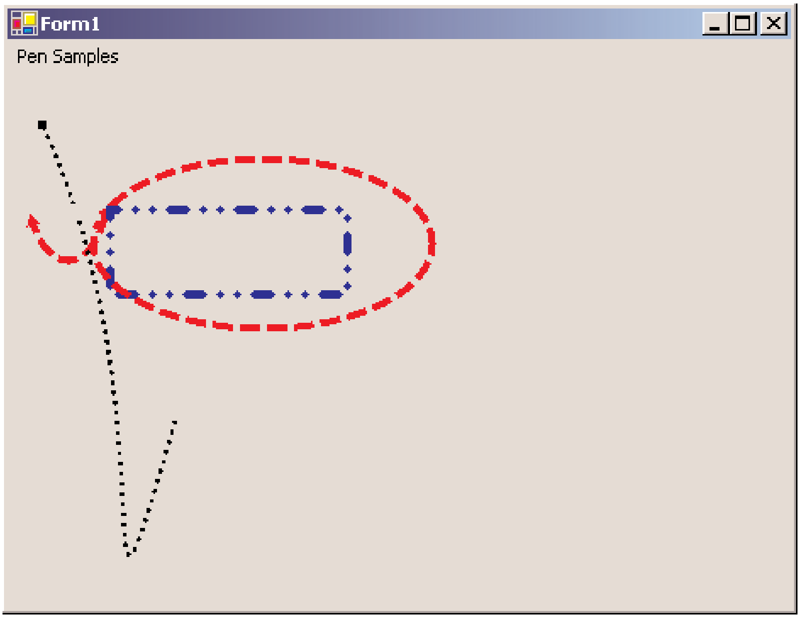


FIGURE 4.26: Graphics shapes with cap and dash styles

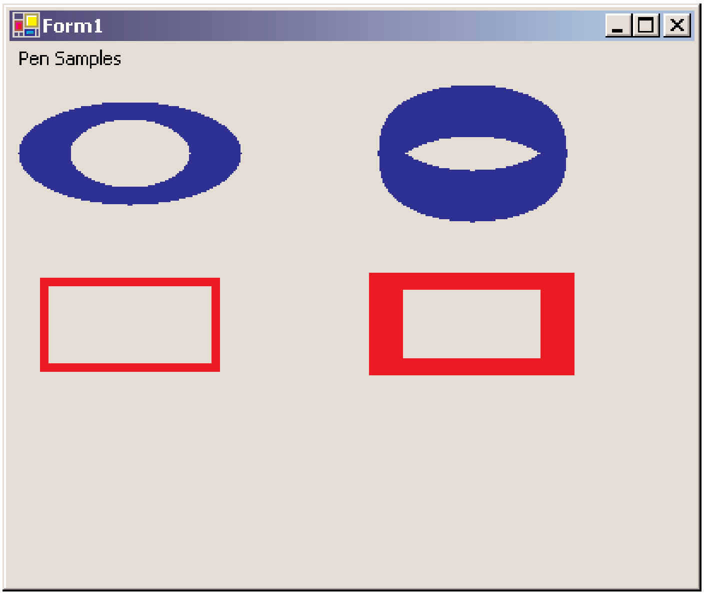


FIGURE 4.27: Rotation and scaling

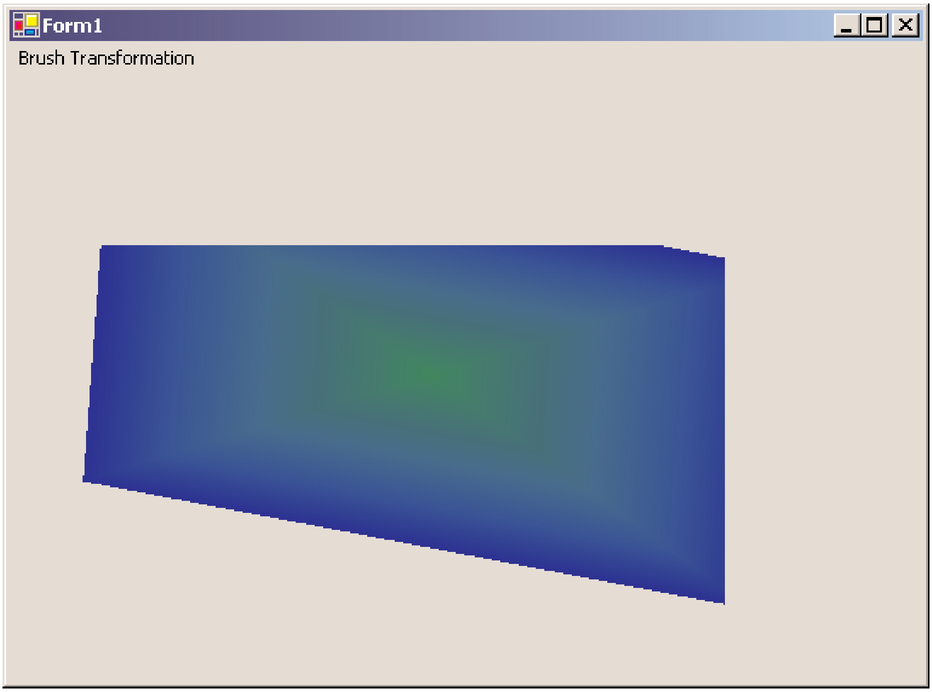


FIGURE 4.30: Transformation in path gradient brushes

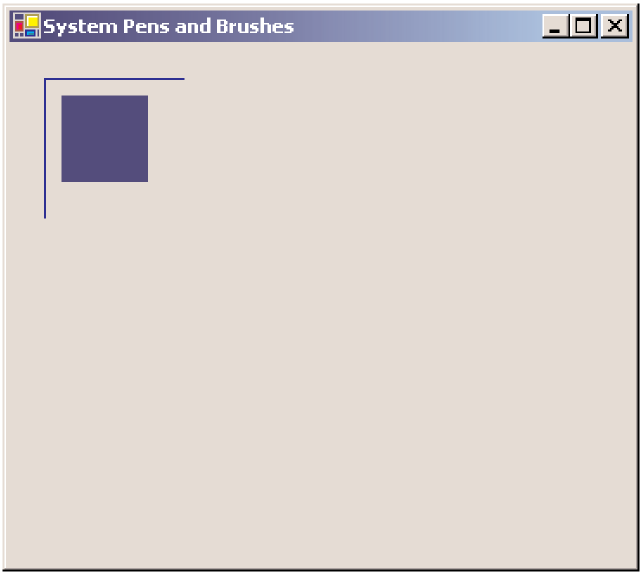


FIGURE 4.31: Using system pens and system brushes

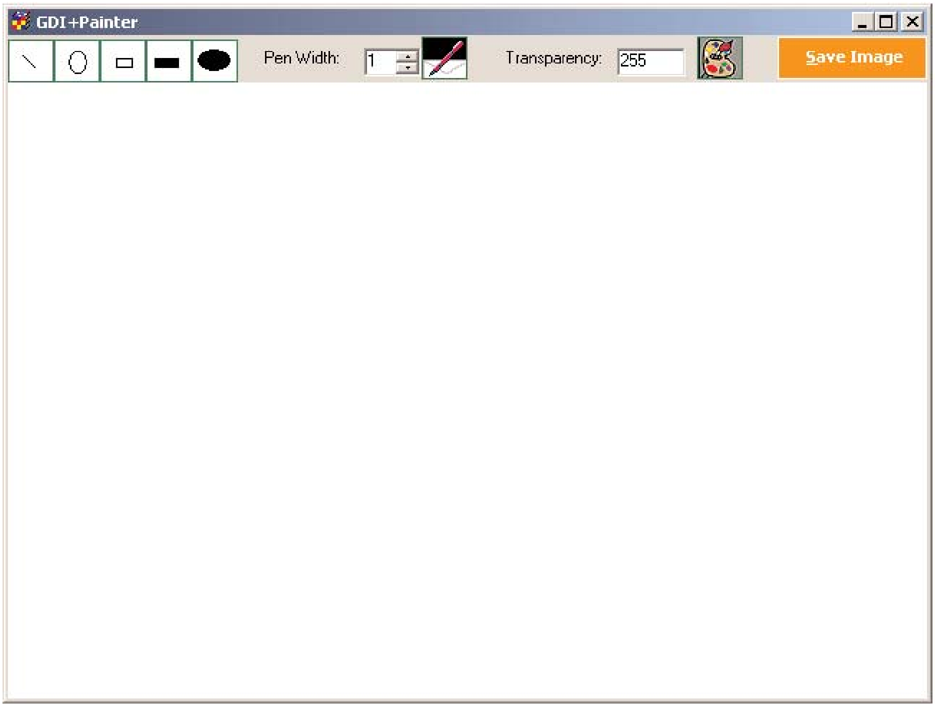


FIGURE 4.32: GDI+Painter with pen and brush support

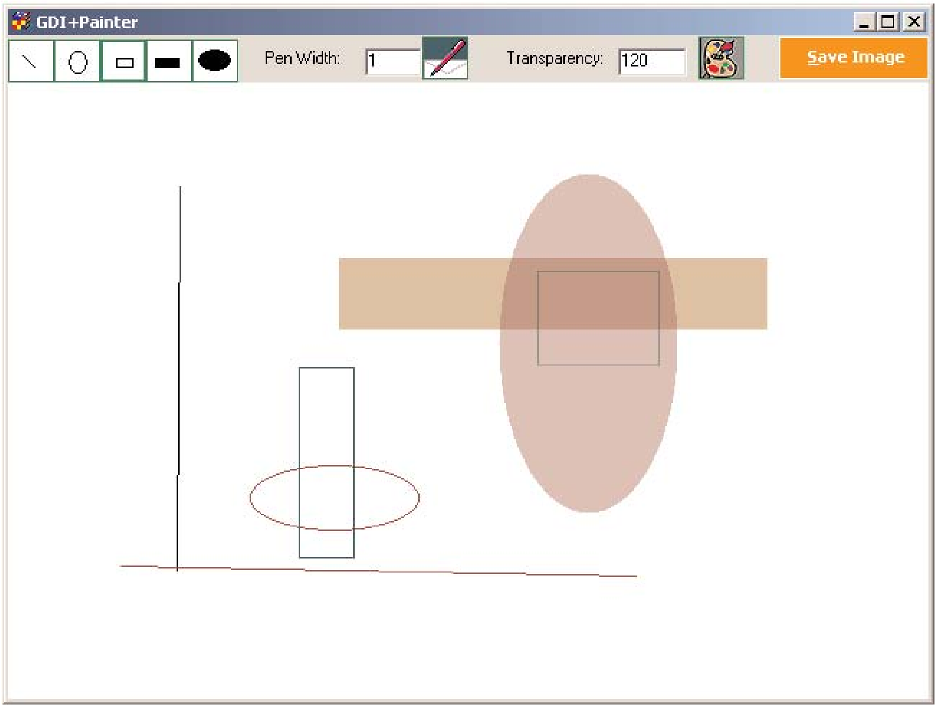
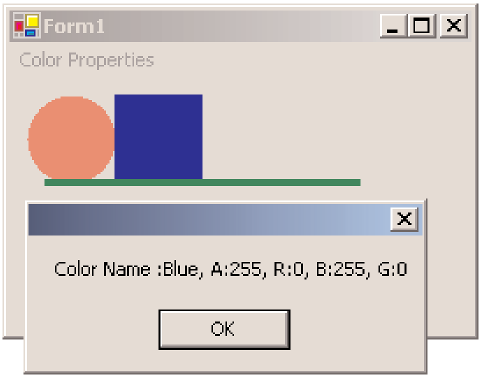
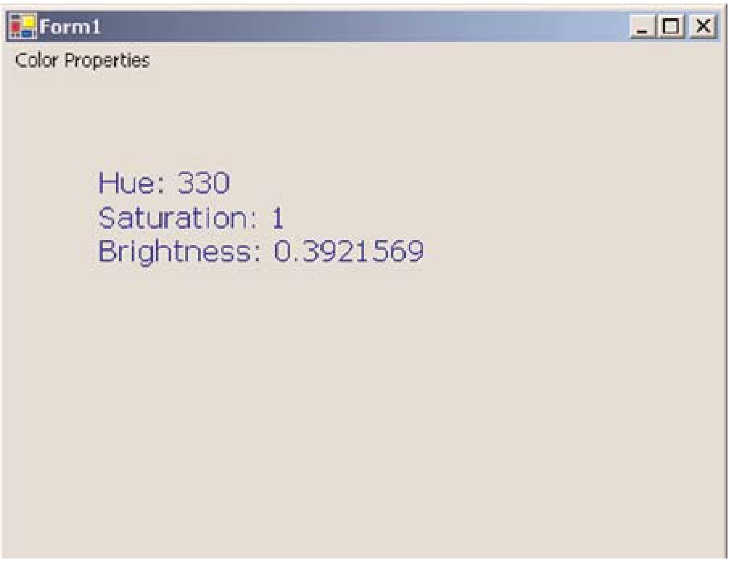


FIGURE 4.33: GDI+Painter in action



Color Name :Blue, A:255, R:0, B:255, G:0

FIGURE 5.1: Creating colors using different methods



Hue: 330
Saturation: 1
Brightness: 0.3921569

FIGURE 5.2: Getting brightness, hue, and saturation components of a color

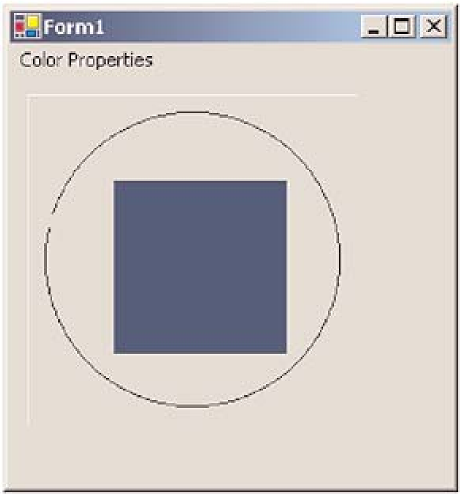


FIGURE 5.3: Using system colors to draw graphics objects

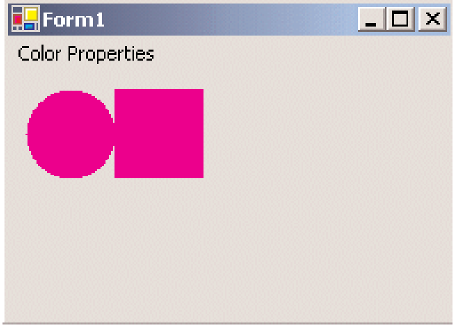
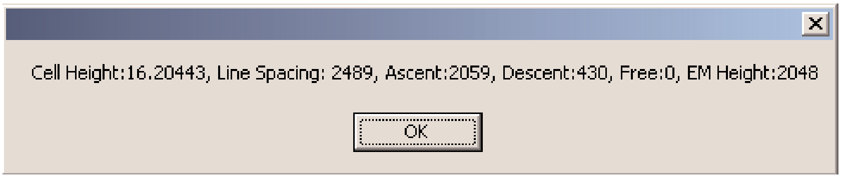
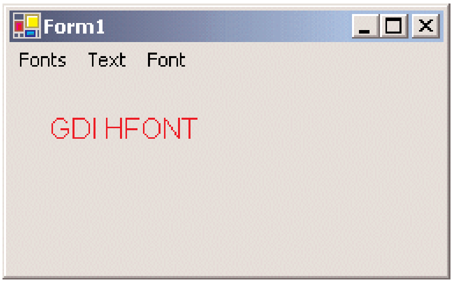


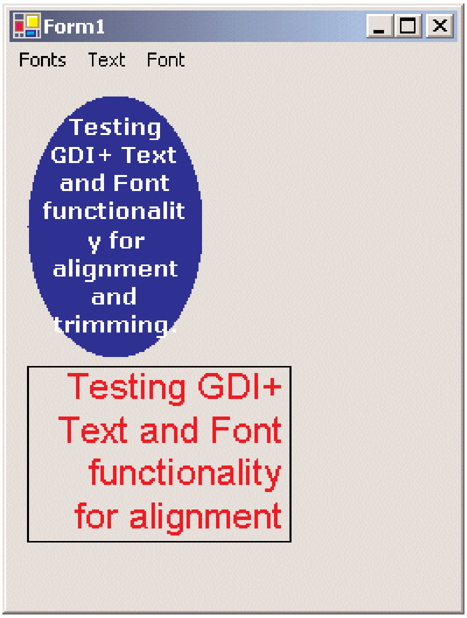
FIGURE 5.4: Converting colors



Cell Height:16.20443, Line Spacing: 2489, Ascent:2059, Descent:430, Free:0, EM Height:2048

FIGURE 5.11: Getting line spacing, ascent, descent, free (extra) space, and height of a font

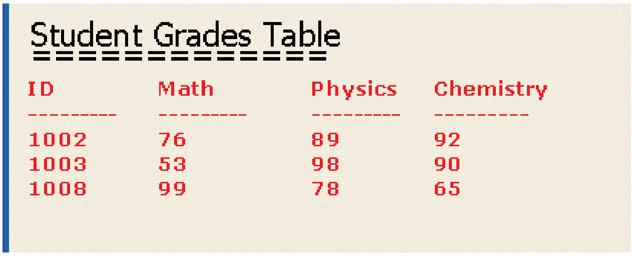




Testing
GDI+ Text
and Font
functionalit
y for
alignment
and
trimming.

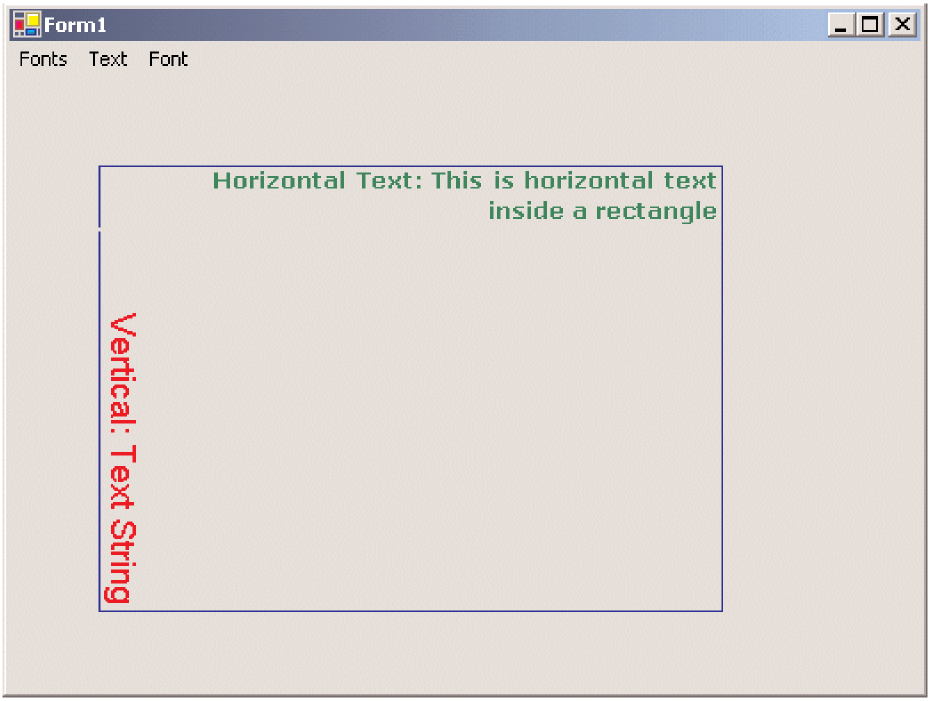
Testing GDI+
Text and Font
functionality
for alignment

FIGURE 5.14: Alignment and trimming options



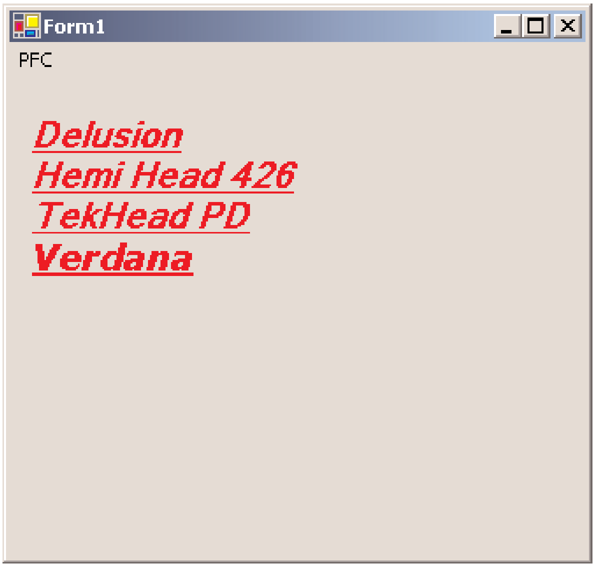
```
Student Grades Table
===============
ID          Math          Physics     Chemistry
---------   ---------     ---------   ---------
1002        76            89          92
1003        53            98          90
1008        99            78          65
```

FIGURE 5.15: Drawing tabbed text on a form



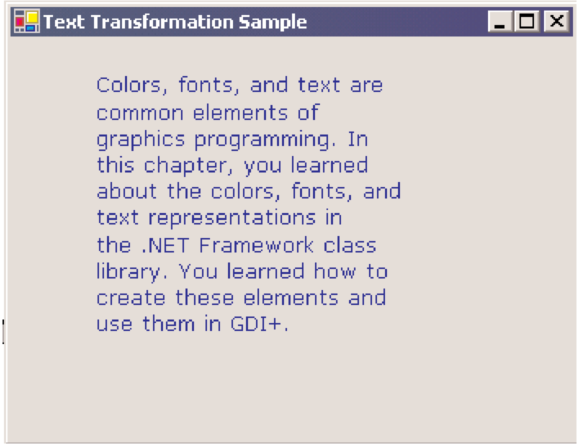
Horizontal Text: This is horizontal text inside a rectangle

Vertical: Text String



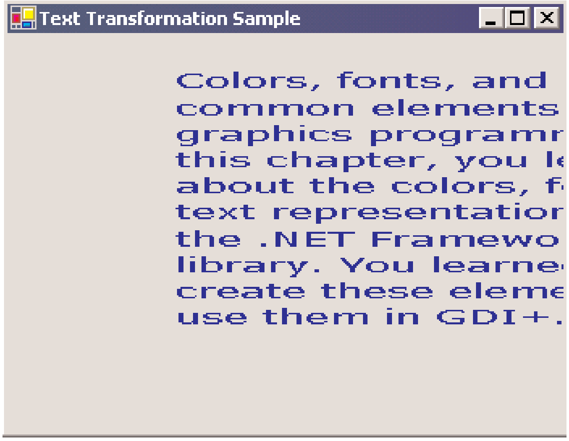
Delusion
Hemi Head 426
TekHead PD
Verdana

FIGURE 5.18: Using a private font collection



Colors, fonts, and text are
common elements of
graphics programming. In
this chapter, you learned
about the colors, fonts, and
text representations in
the .NET Framework class
library. You learned how to
create these elements and
use them in GDI+.

FIGURE 5.20: Drawing text on a form



Colors, fonts, and
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this chapter, you l
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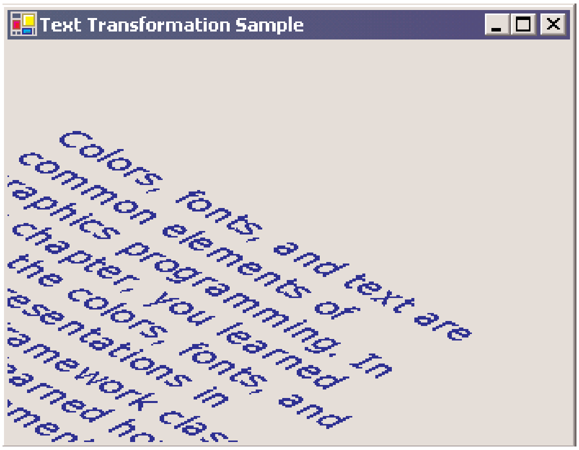
text representatio
the .NET Framewo
library. You learne
create these eleme
use them in GDI+.



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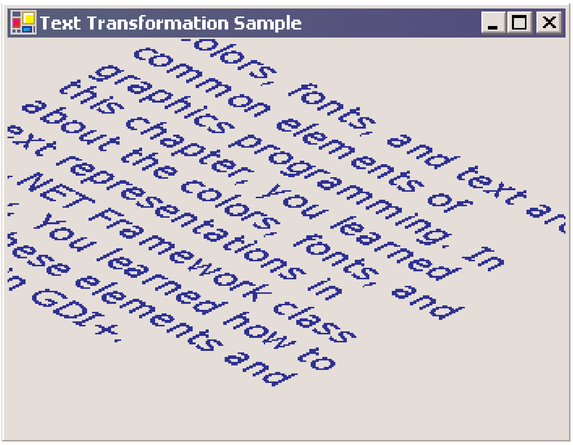

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common elements of
graphics programming. In
this chapter, you learned
about the colors, fonts, and
ext representations in
.NET Framework class
, you learned how to
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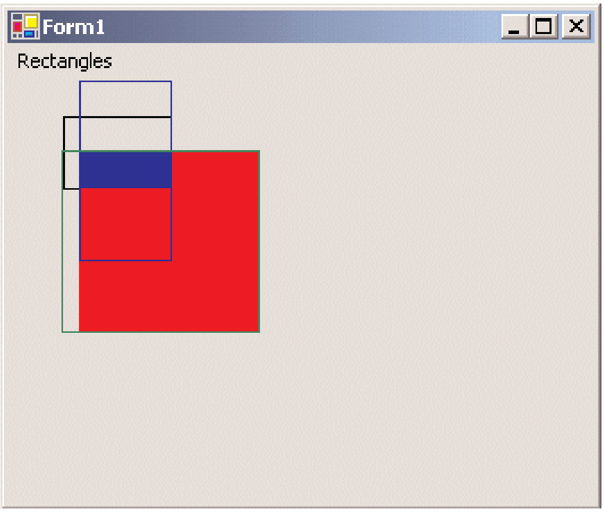
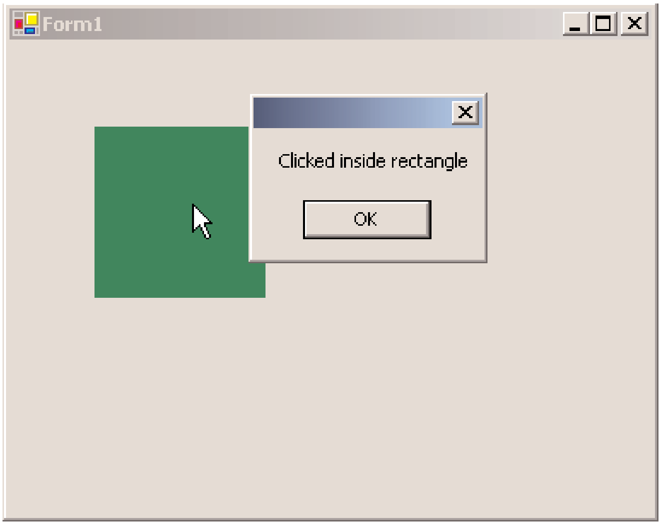
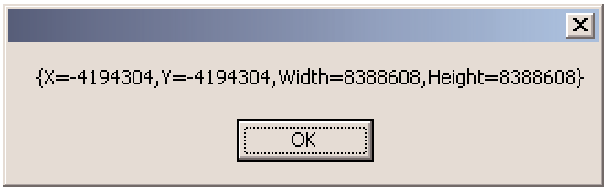




Clicked inside rectangle



{X=-4194304,Y=-4194304,Width=8388608,Height=8388608}

FIGURE 6.10: Bounds of an infinite region

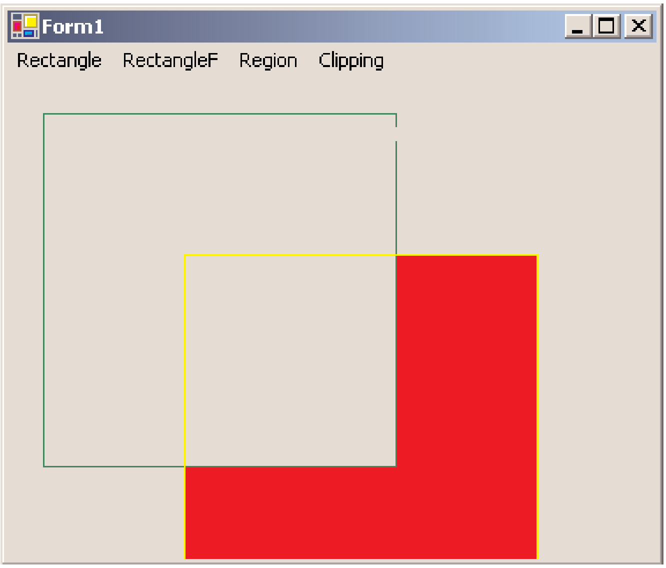
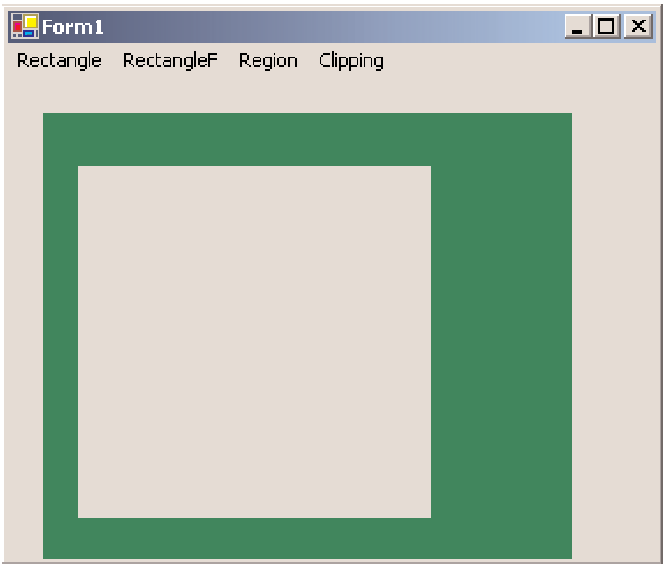


FIGURE 6.12: Using Clip methods



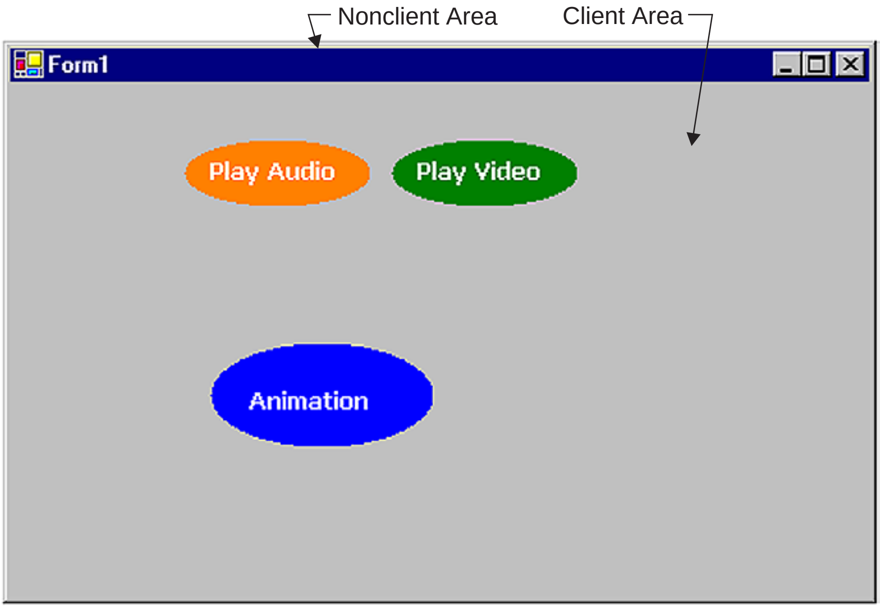


FIGURE 6.18: Client and nonclient areas of a form

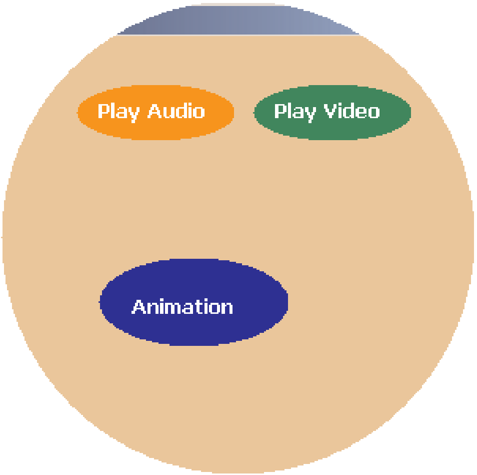


FIGURE 6.19: A nonrectangular form and controls

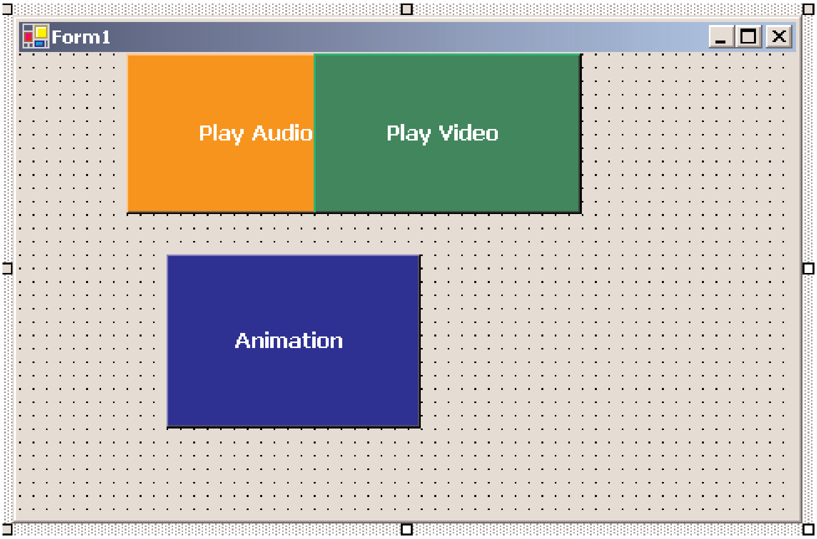


FIGURE 6.20: The nonrectangular forms application

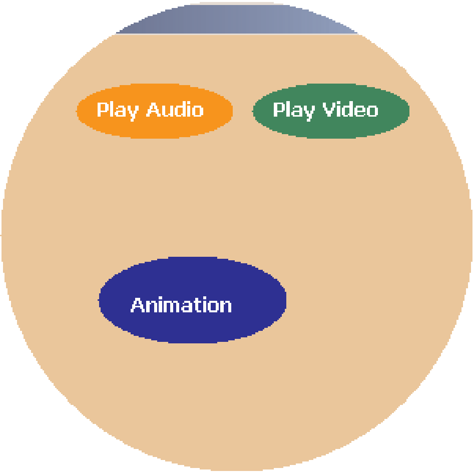


FIGURE 6.21: A circular form

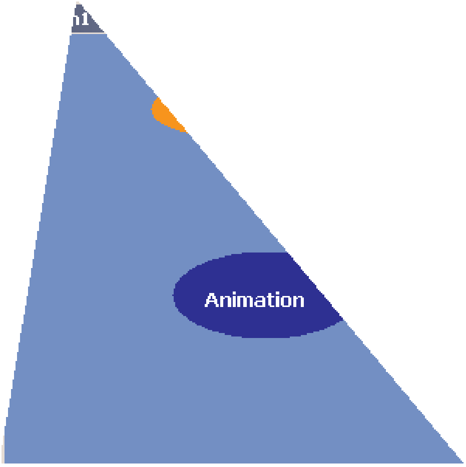


FIGURE 6.22: A triangular form

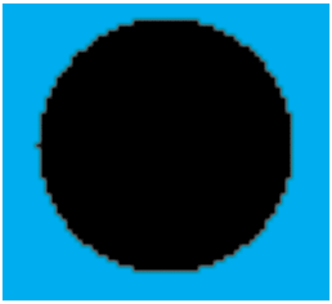


FIGURE 7.1: A zoomed raster image

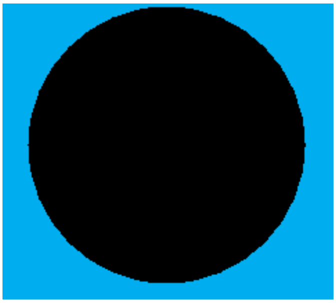


FIGURE 7.2: A zoomed vector image

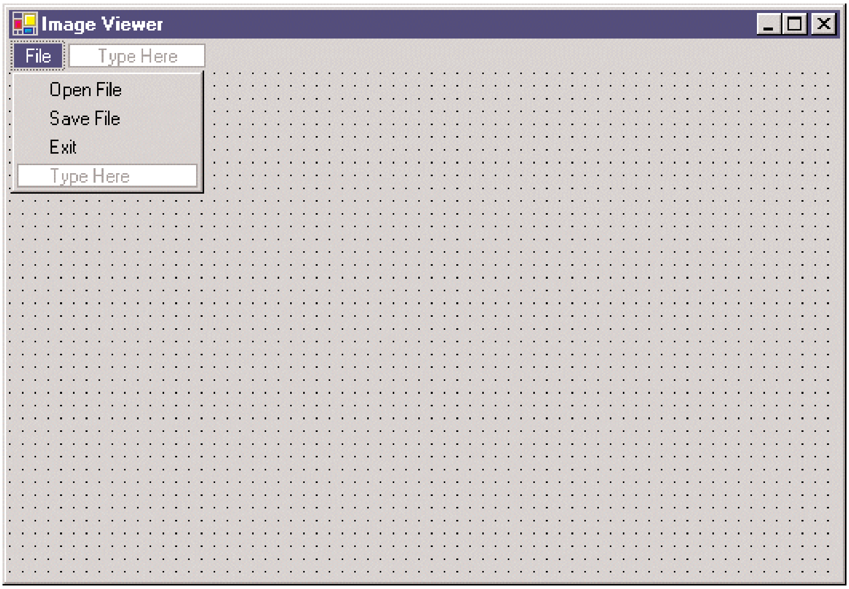
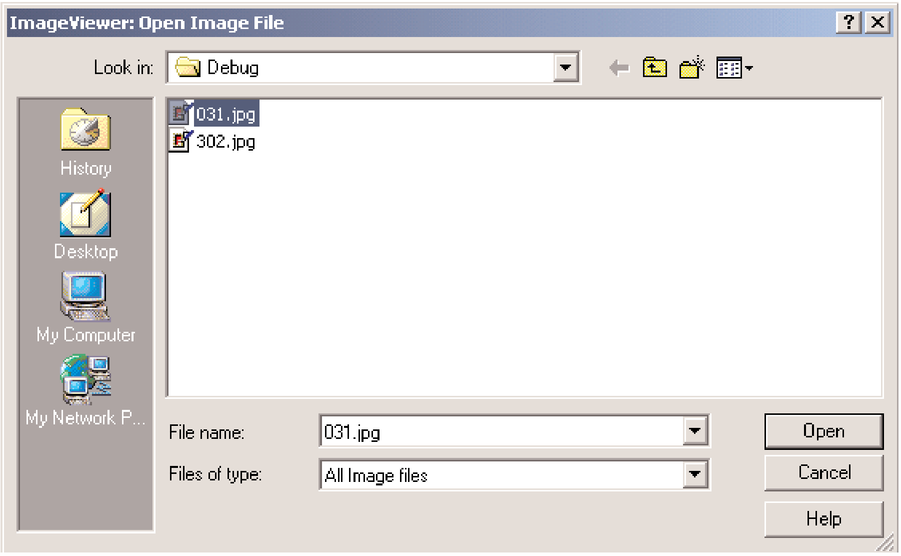


FIGURE 7.3: A simple image viewer application



Look in: Debug

File name: 031.jpg

Files of type: All Image files

FIGURE 7.4: Browsing a file

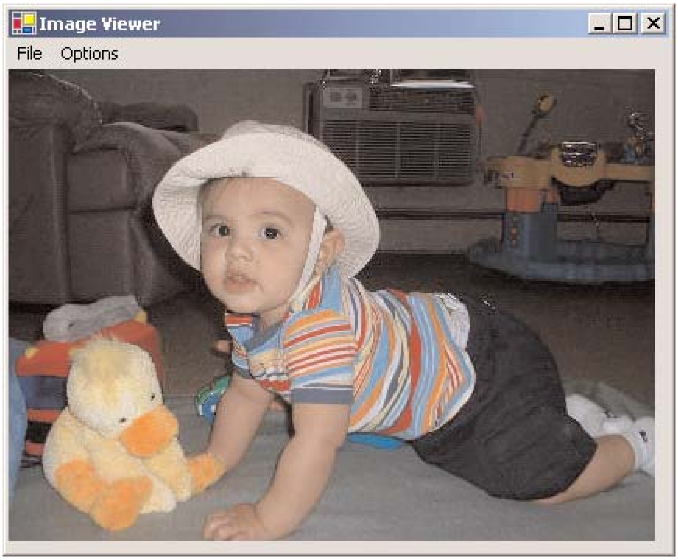
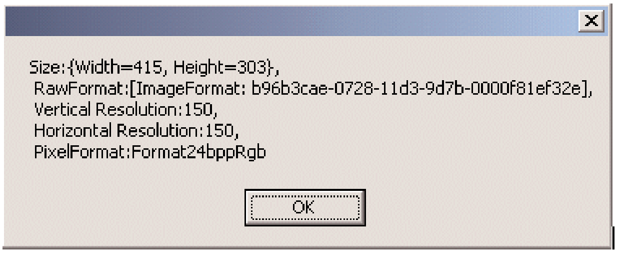


FIGURE 7.5: Viewing an image



```
Size:{Width=415, Height=303},
 RawFormat:[ImageFormat: b96b3cae-0728-11d3-9d7b-0000f81ef32e],
 Vertical Resolution:150,
 Horizontal Resolution:150,
 PixelFormat:Format24bppRgb
```

FIGURE 7.6: Reading the properties of an image

FIGURE 7.7: A thumbnail image

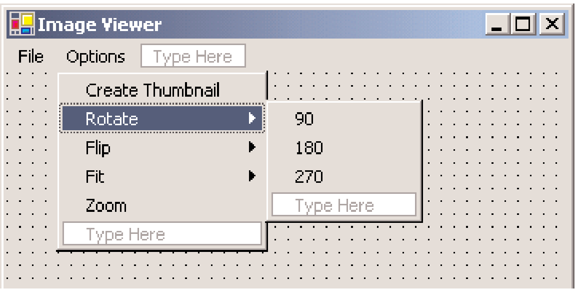


FIGURE 7.8: Rotate menu items

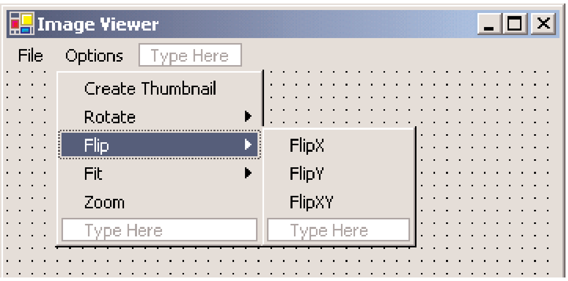


FIGURE 7.9: Flip menu items

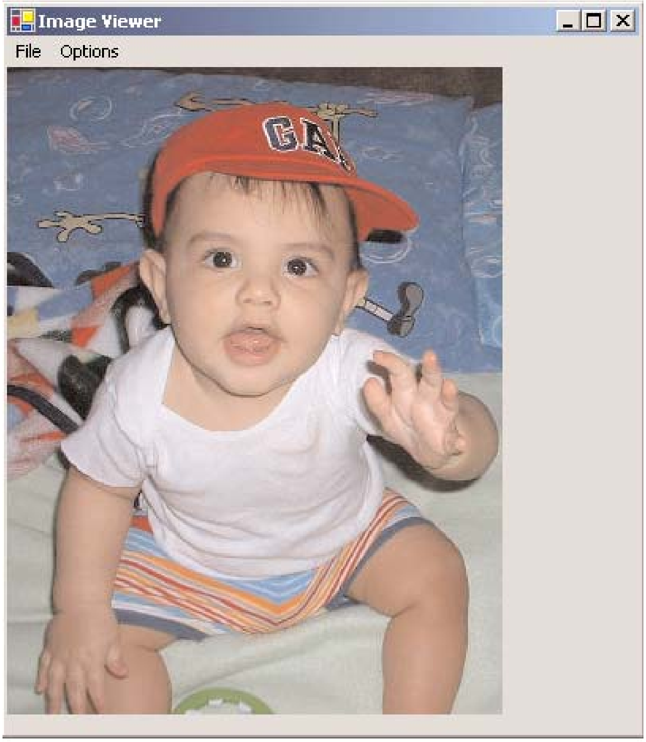


FIGURE 7.10: An image with default settings

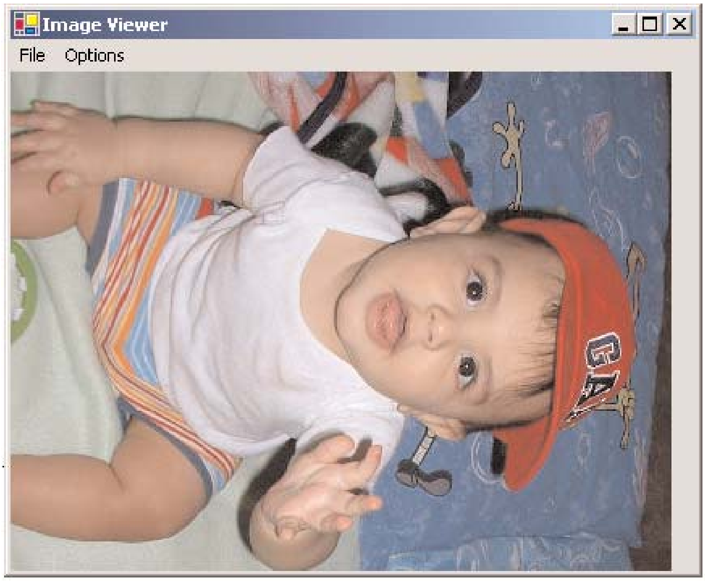


FIGURE 7.11: The image of Figure 7.10, rotated 90 degrees

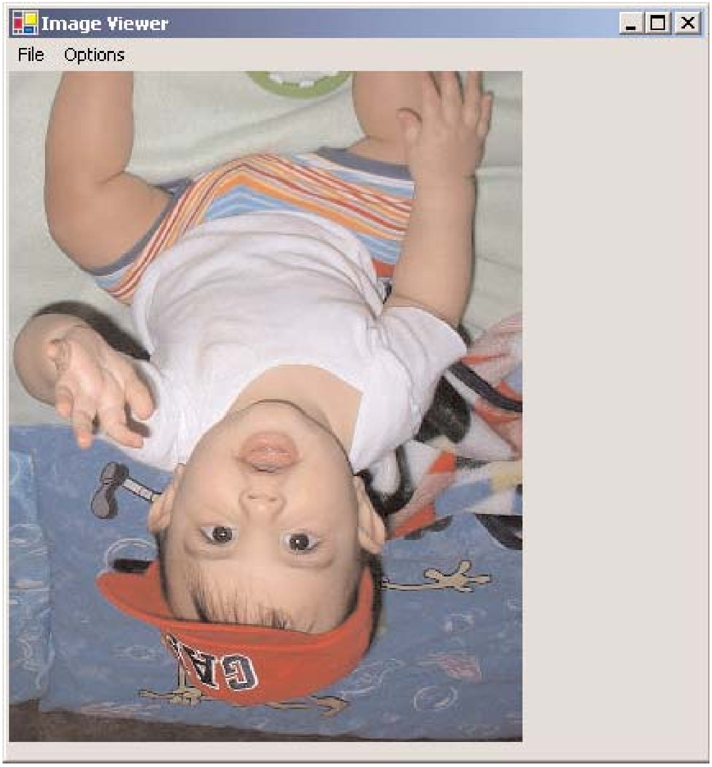


FIGURE 7.12: The image of Figure 7.10, rotated 180 degrees

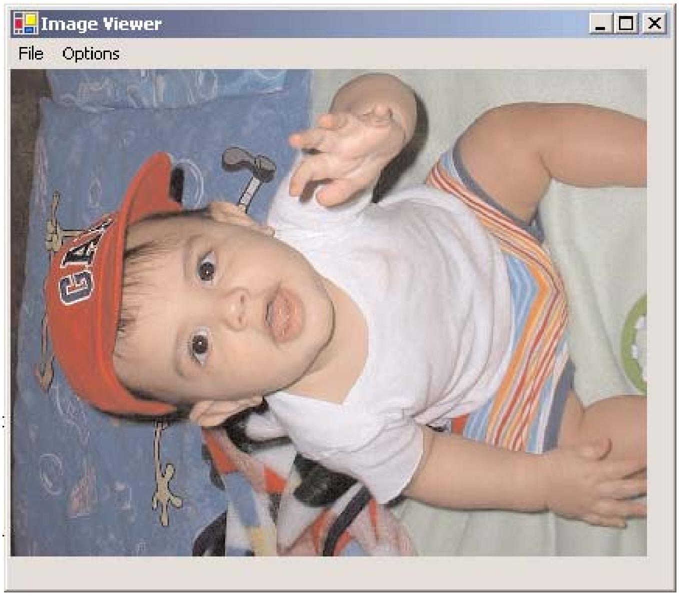


FIGURE 7.13: The image of Figure 7.10, rotated 270 degrees

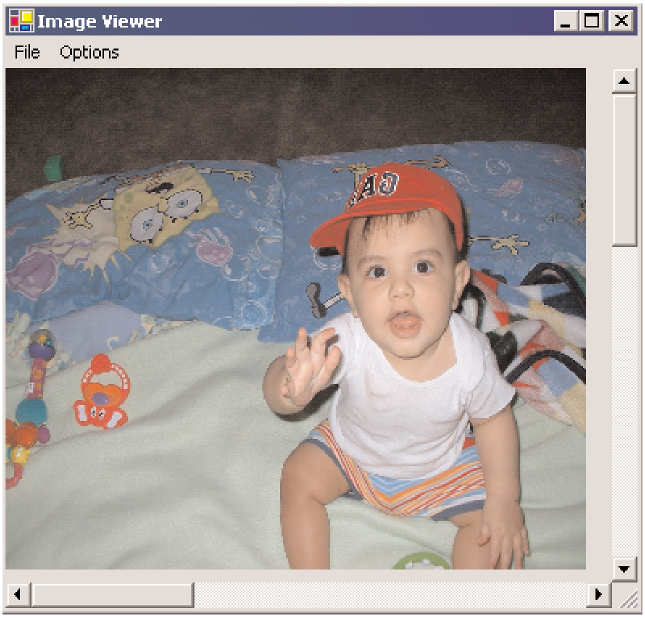


FIGURE 7.14: The image of Figure 7.10, flipped in the *x*-direction

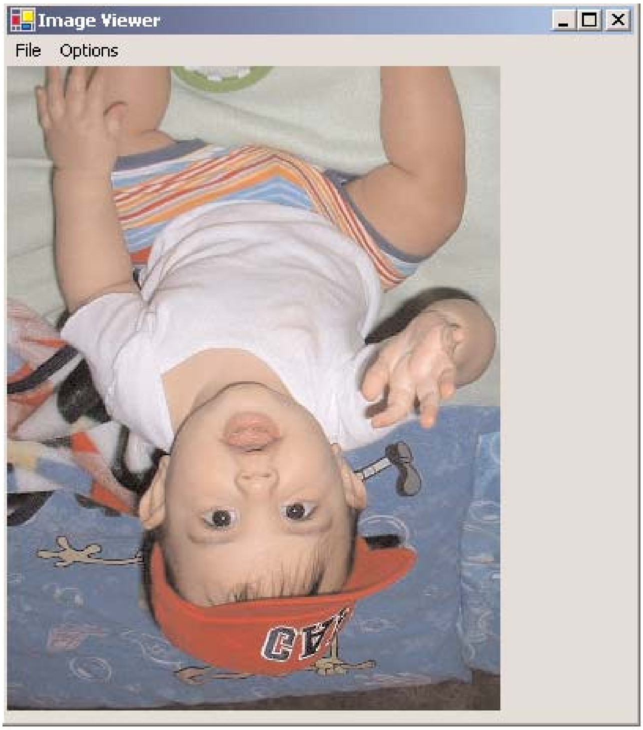


FIGURE 7.15: The image of Figure 7.10, flipped in the *y*-direction

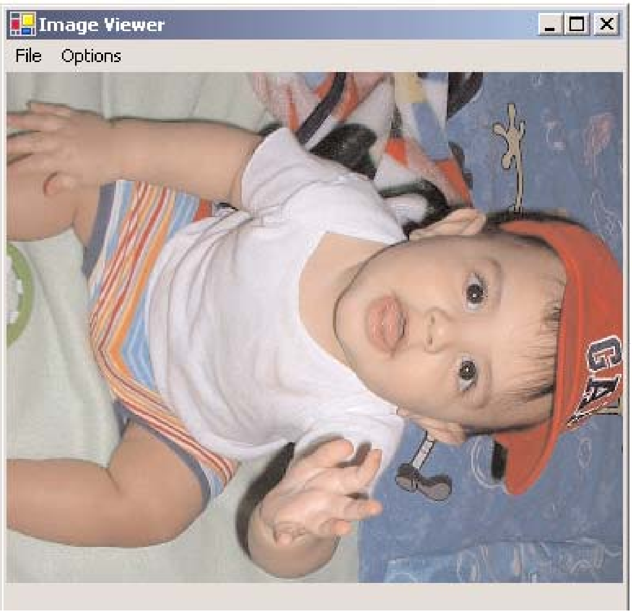


FIGURE 7.16: The image of Figure 7.10, flipped in both the *x*-and the *y*-directions

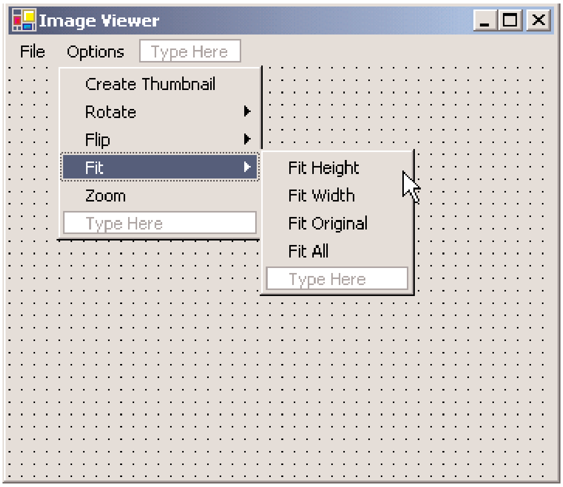


FIGURE 7.17: Fit menu items

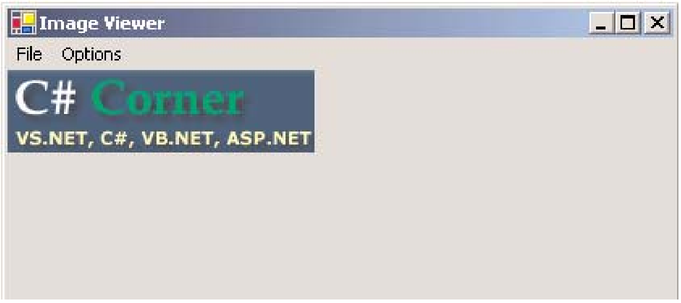


FIGURE 7.18: An image in ImageViewer

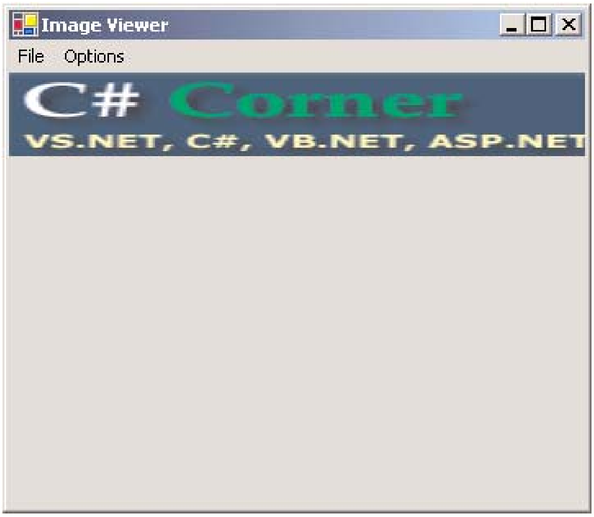


FIGURE 7.19: The image of Figure 7.18 after Fit Width

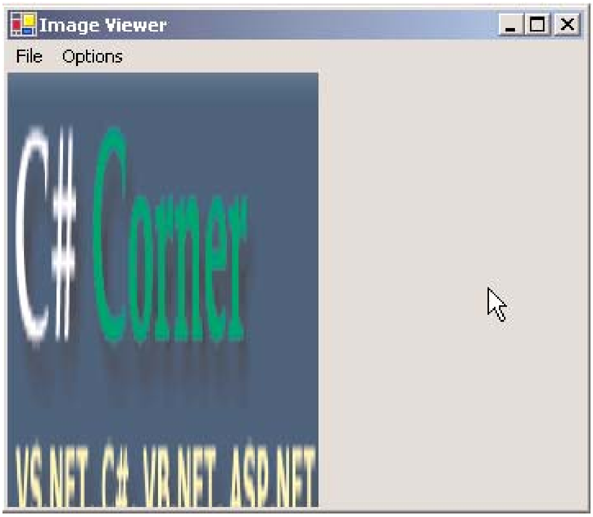


FIGURE 7.20: The image of Figure 7.18 after Fit Height

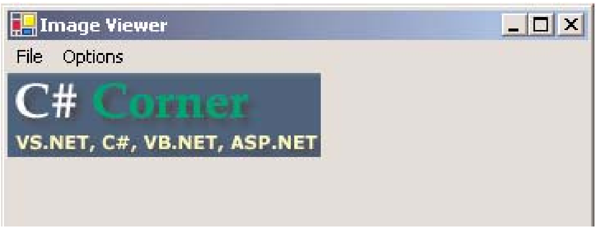


FIGURE 7.21: The image of Figure 7.18 after Fit Original

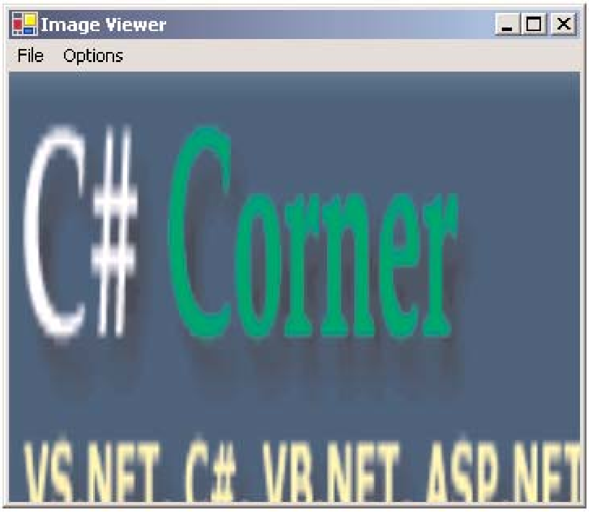


FIGURE 7.22: The image of Figure 7.18 after Fit All

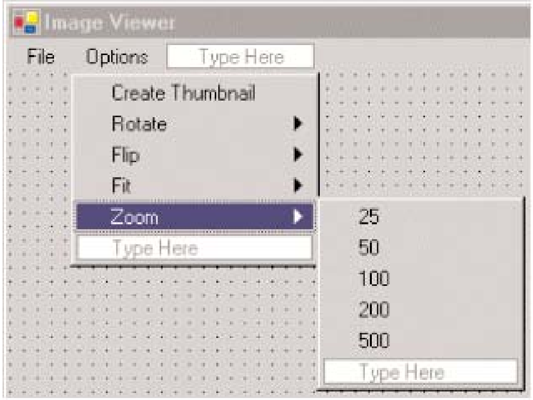


FIGURE 7.23: Zoom menu items

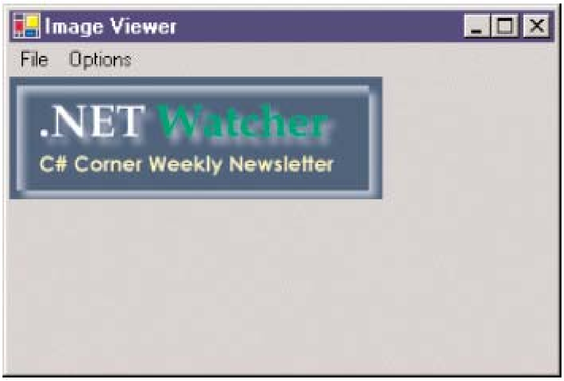


FIGURE 7.24: An image in ImageViewer

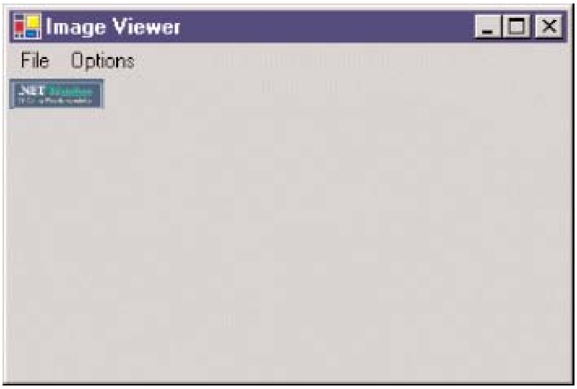


FIGURE 7.25: The image of Figure 7.24 with 25 percent zoom

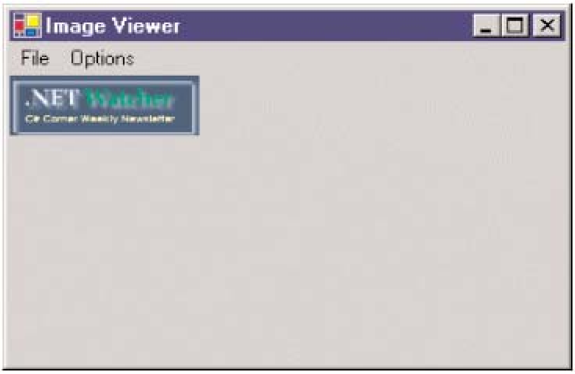


FIGURE 7.26: The image of Figure 7.24 with 50 percent zoom

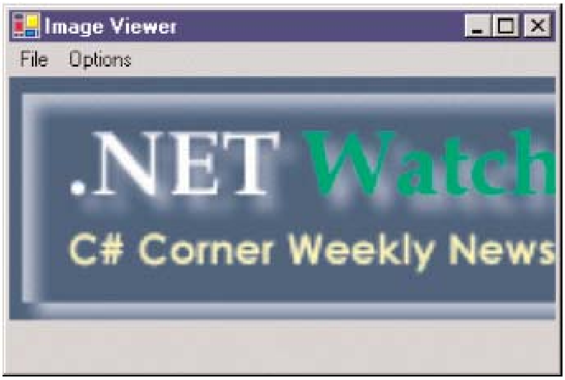


FIGURE 7.27: The image of Figure 7.24 with 200 percent zoom

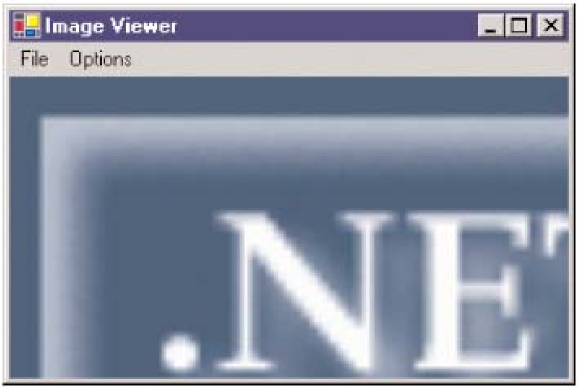


FIGURE 7.28: The image of Figure 7.24 with 500 percent zoom

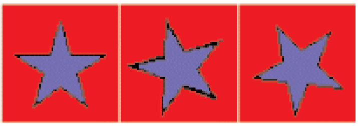


FIGURE 7.29: An animated image with three frames

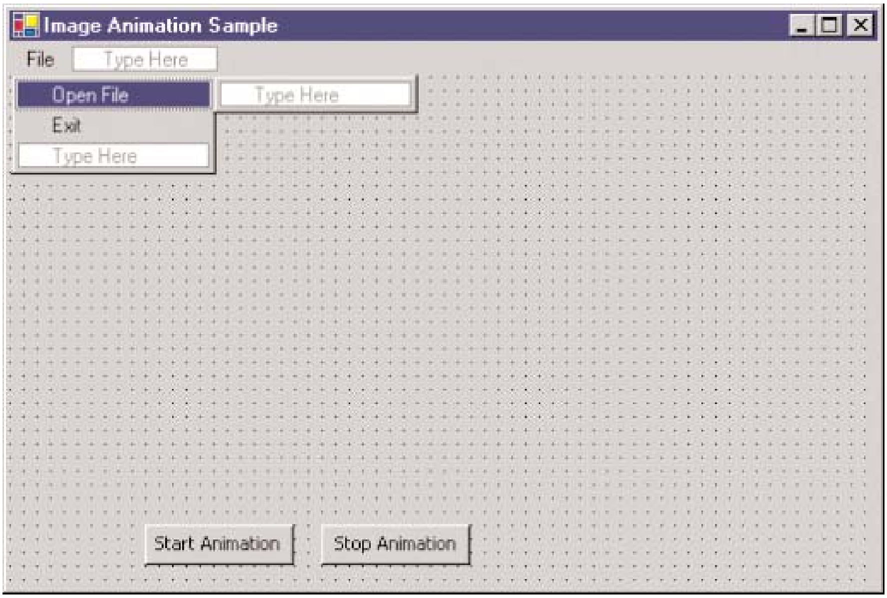


FIGURE 7.30: An image animation example

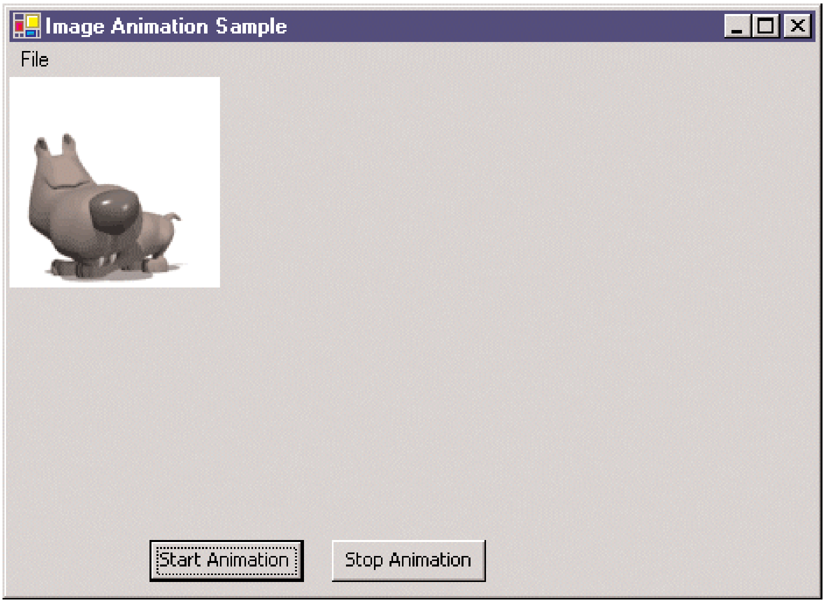


FIGURE 7.31: The first frame of an animated image

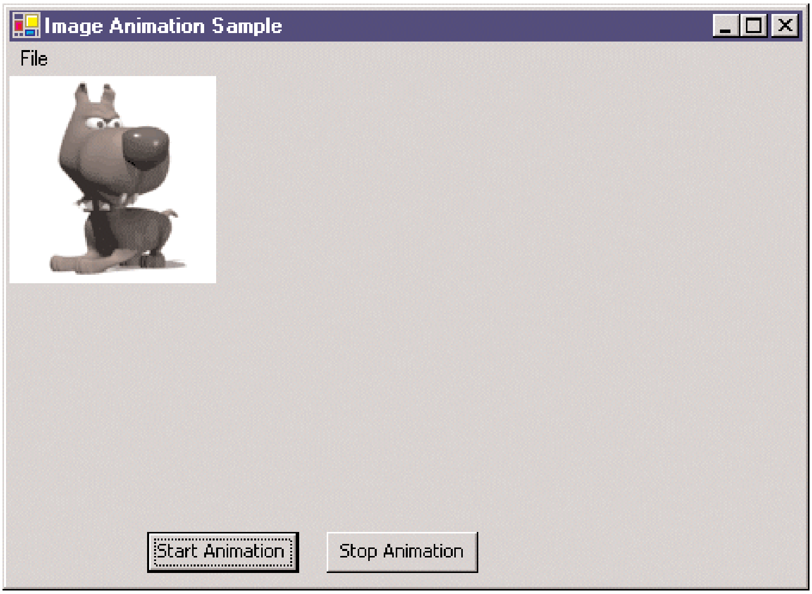


FIGURE 7.32: The second frame of an animated image

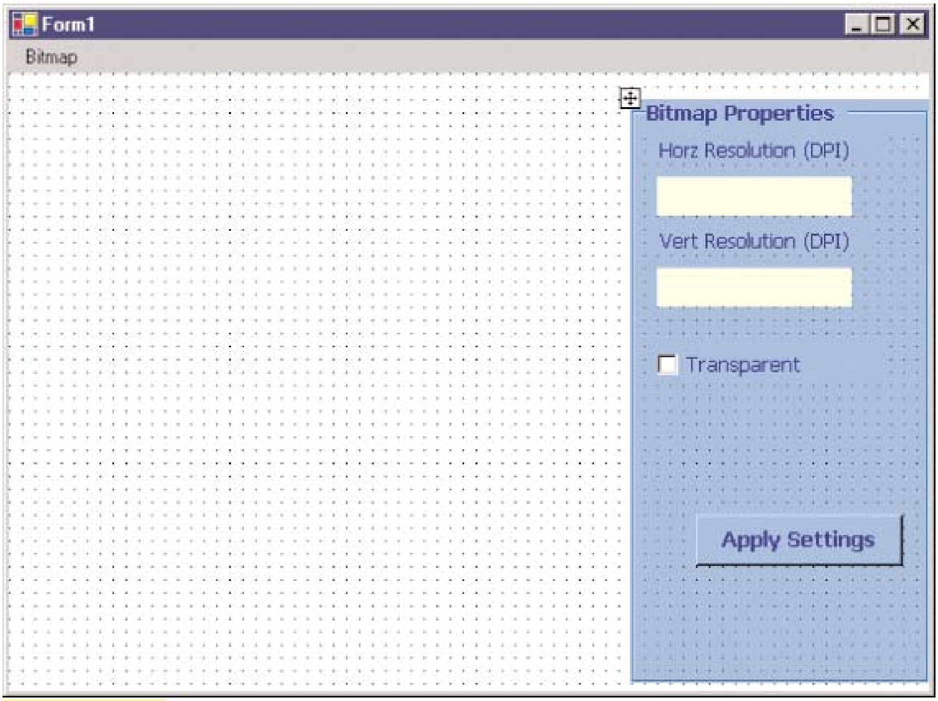
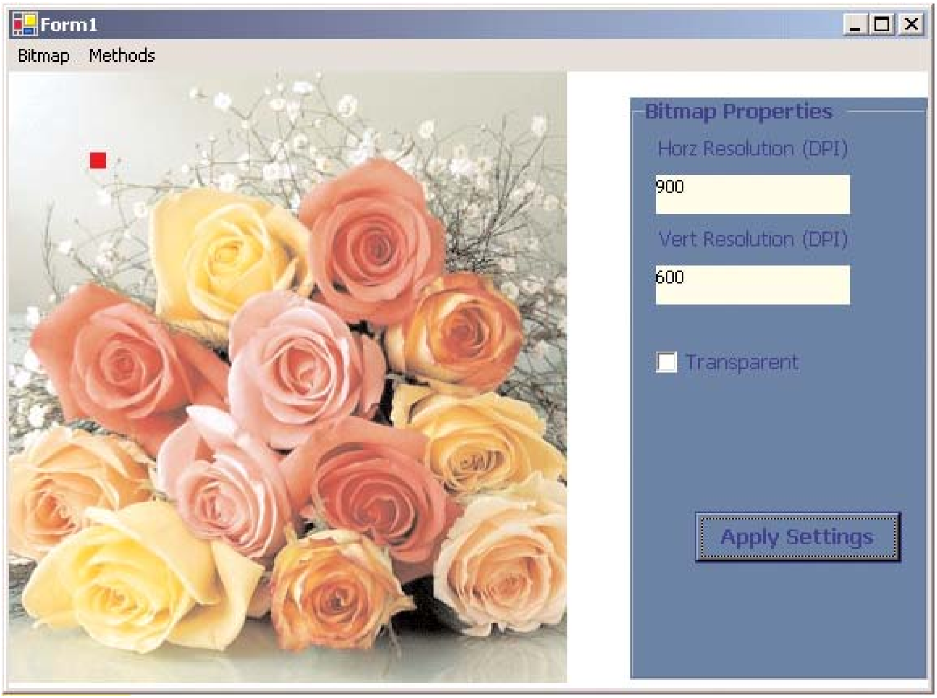


FIGURE 7.33: A bitmap example



Horz Resolution (DPI)
900

Vert Resolution (DPI)
600

□ Transparent

FIGURE 7.34: Changing the pixel colors of a bitmap

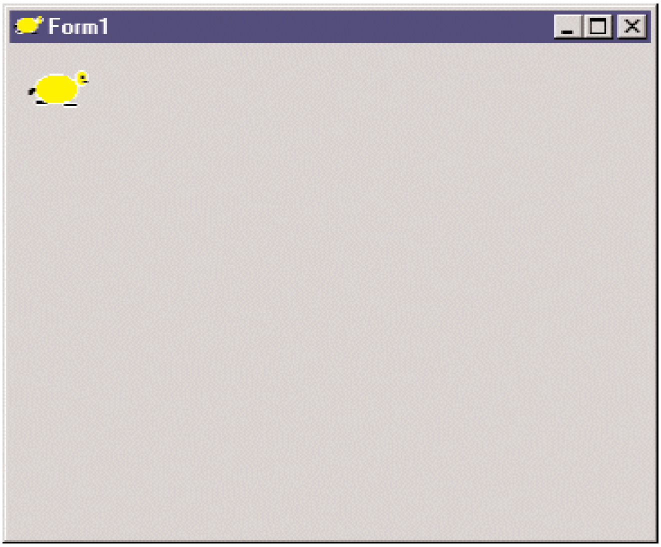


FIGURE 7.35: Viewing icons

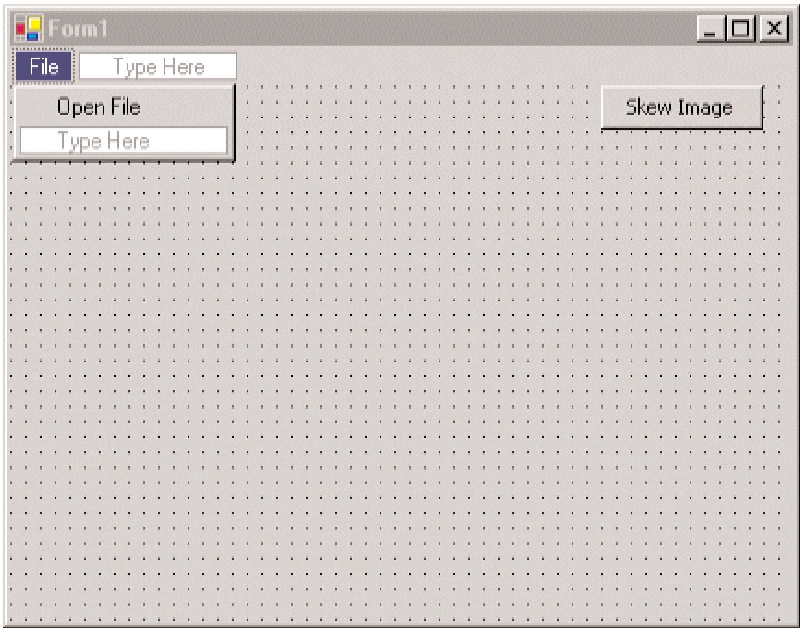


FIGURE 7.36: A skewing application

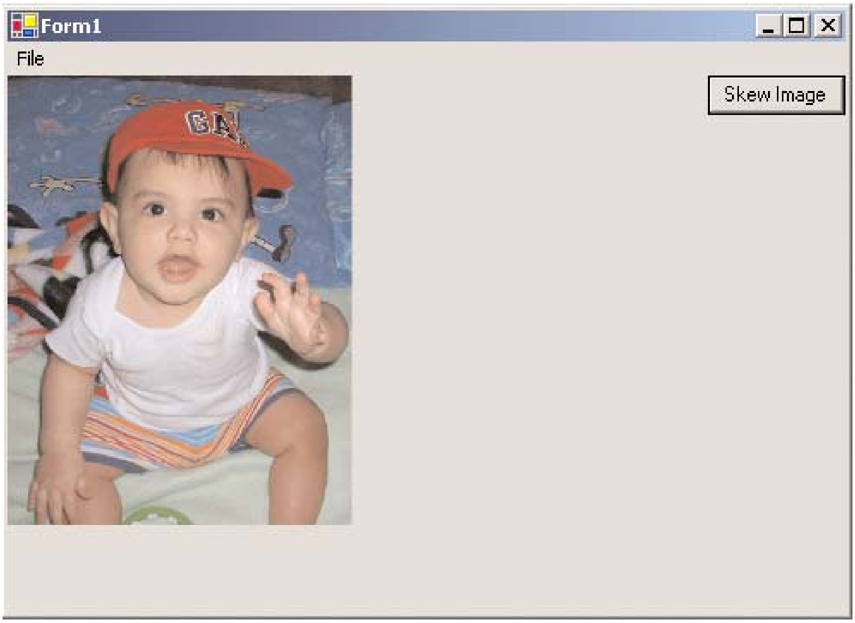


FIGURE 7.37: Normal view of an image

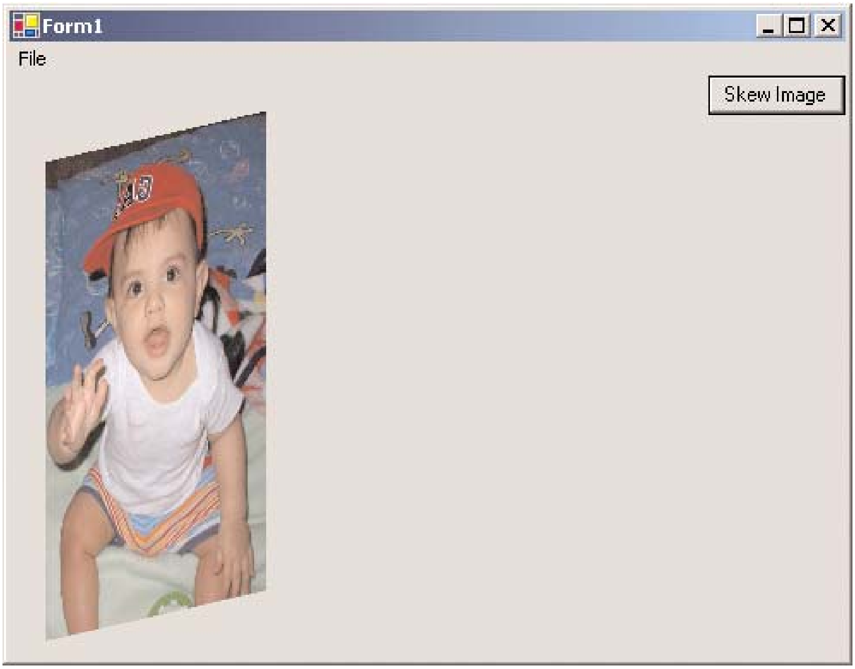


FIGURE 7.38: Skewed image

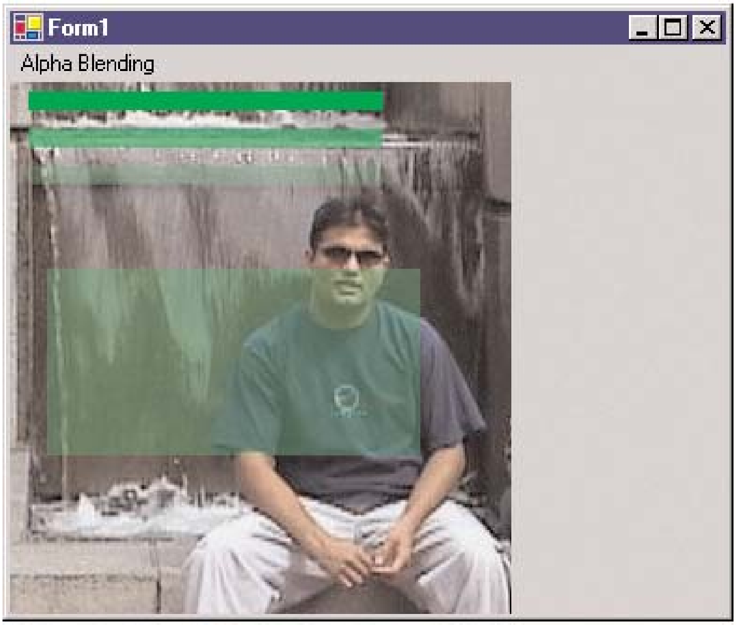


FIGURE 7.39: Drawing transparent graphics objects

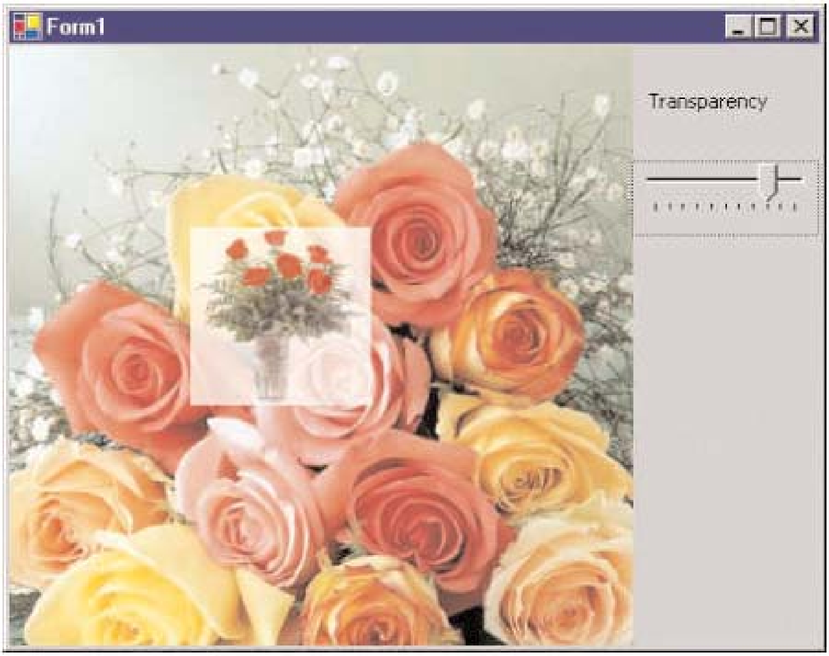


FIGURE 7.40: Drawing multiple images

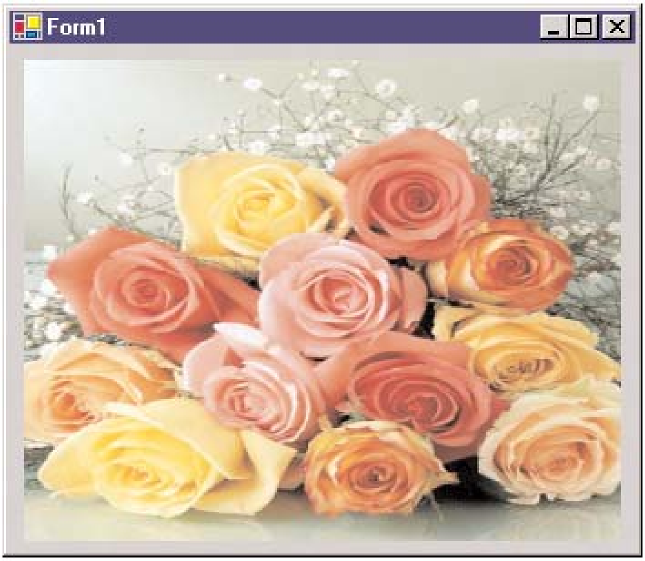


FIGURE 7.41: Viewing an image in a picture box

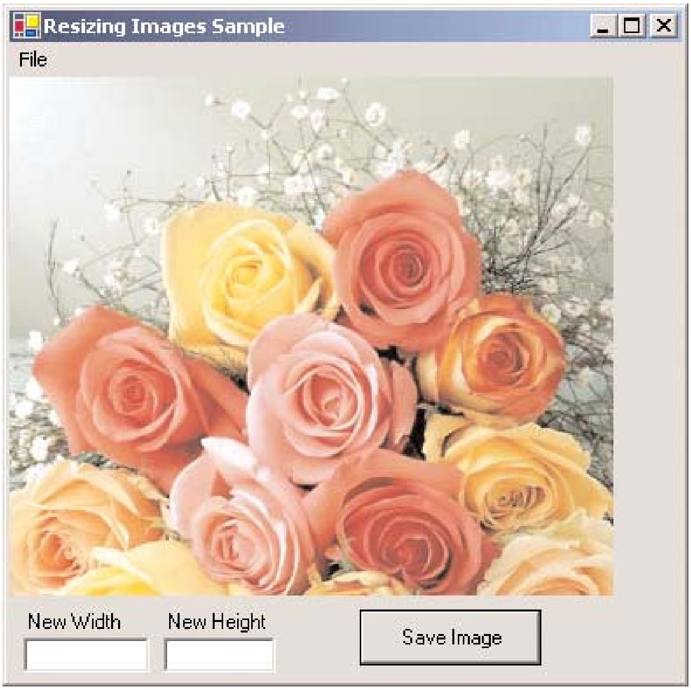


FIGURE 7.42: Saving images with different sizes

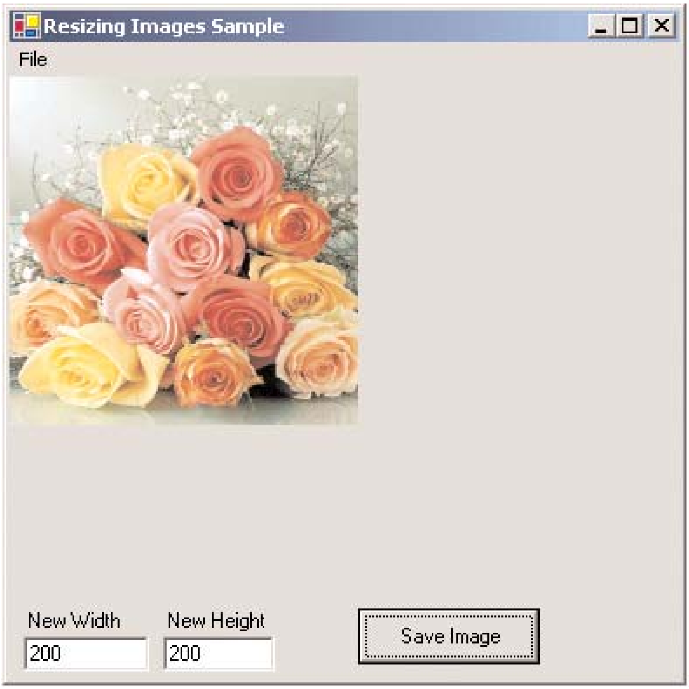
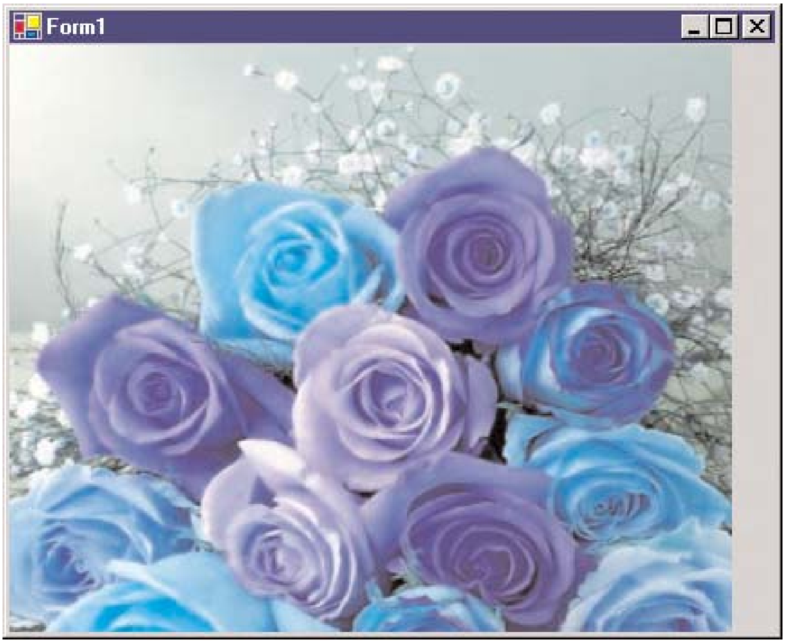


FIGURE 7.43: New image, with width of 200 and height of 200



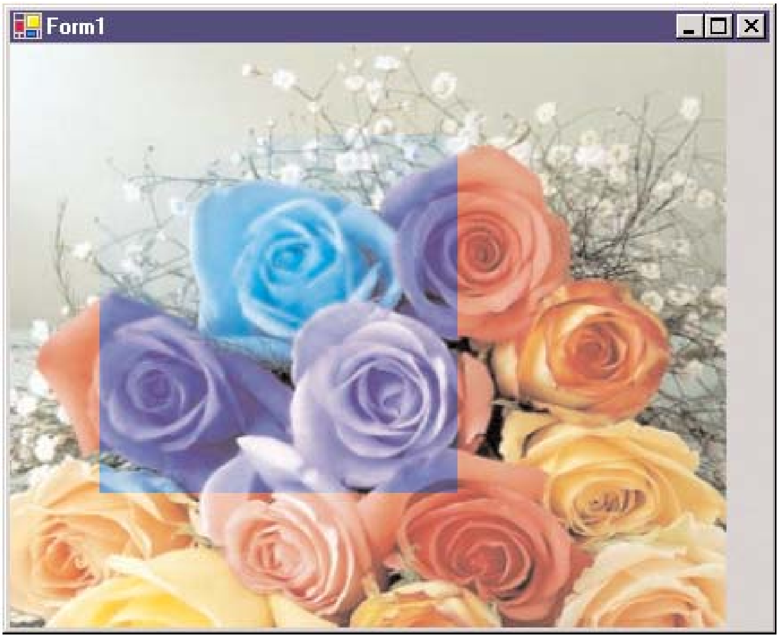


FIGURE 8.2: Changing the pixel format of a partial bitmap

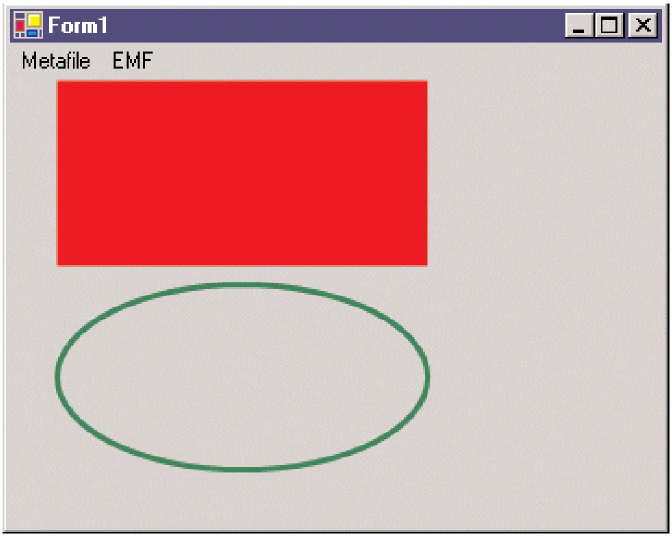


FIGURE 8.3: Viewing a metafile

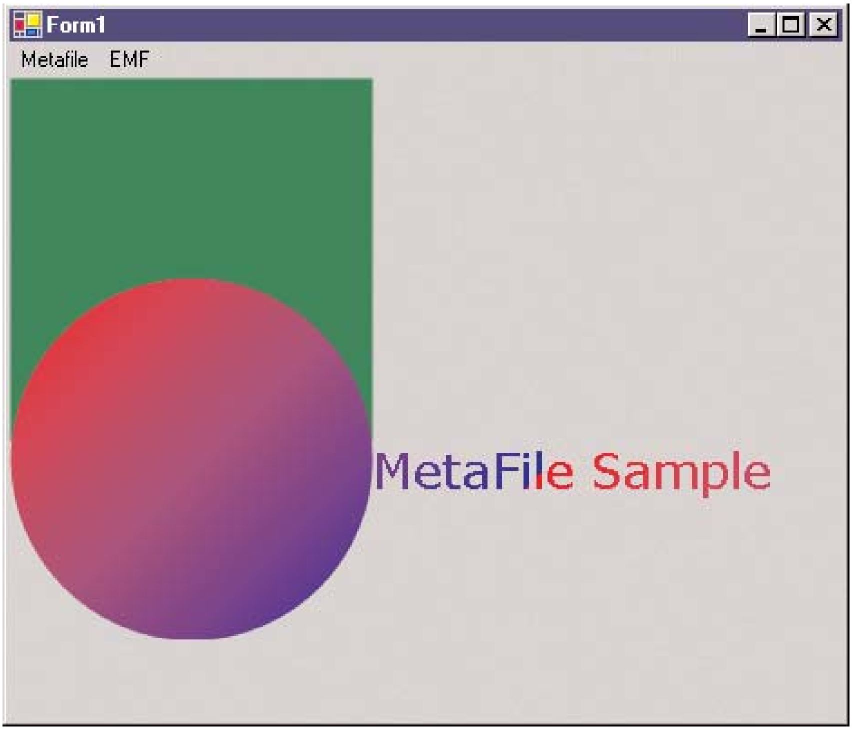
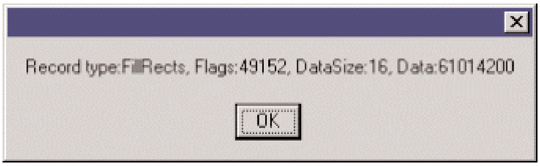
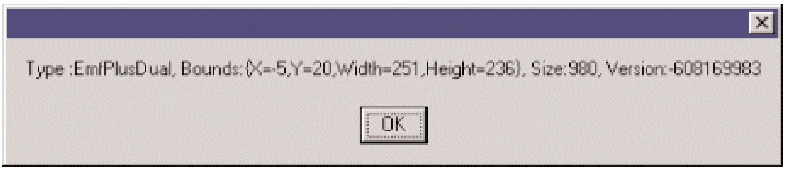


FIGURE 8.4: A metafile created programmatically



```
Record type:FillRects, Flags:49152, DataSize:16, Data:61014200
```

FIGURE 8.5: Reading metafile records



```
Type :EmfPlusDual, Bounds:{X=-5,Y=20,Width=251,Height=236}, Size:980, Version:-608169983
```

FIGURE 8.6: Reading metafile header attributes

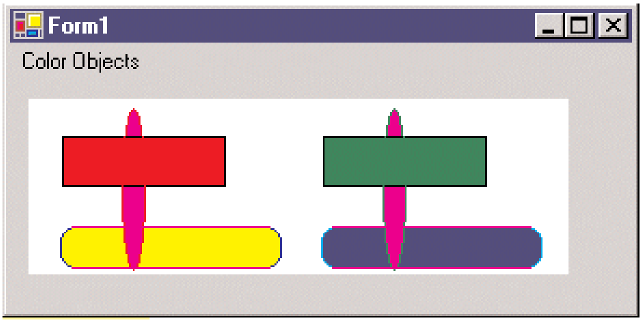


FIGURE 8.7: Applying a color remap table

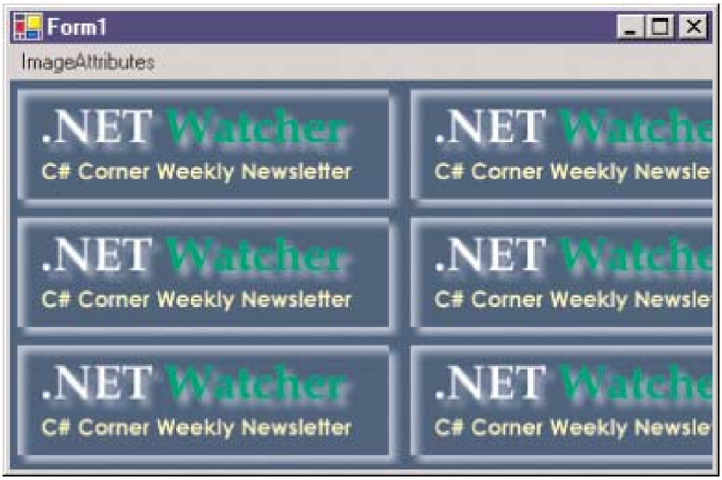


FIGURE 8.8: Wrapping images

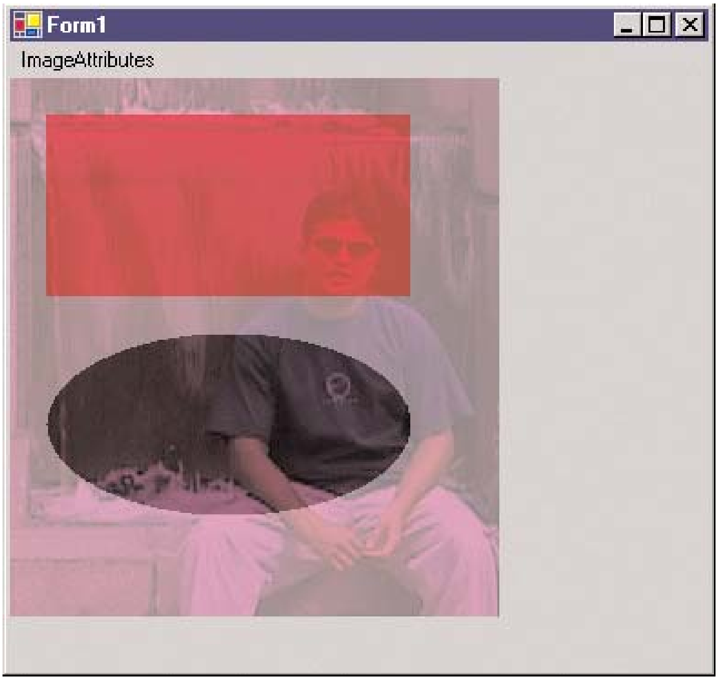
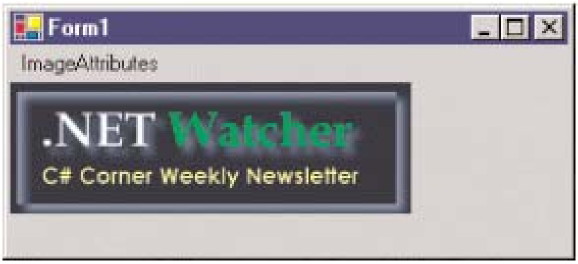
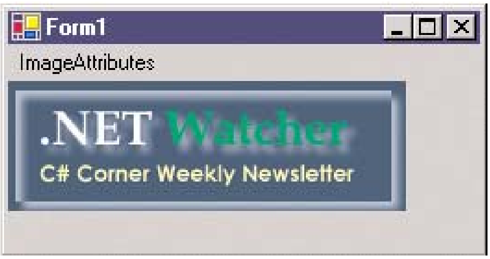


FIGURE 8.9: Drawing semitransparent images





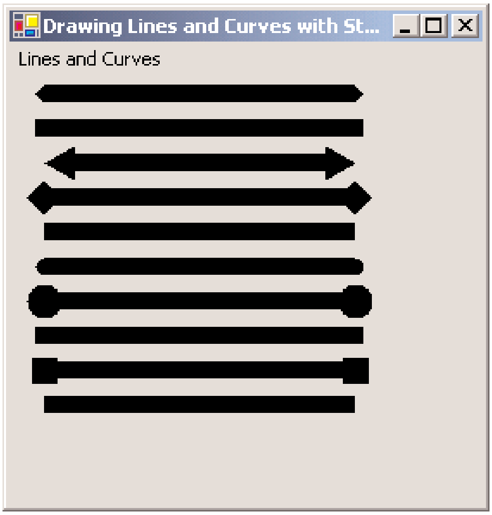


FIGURE 9.4: Reading line caps

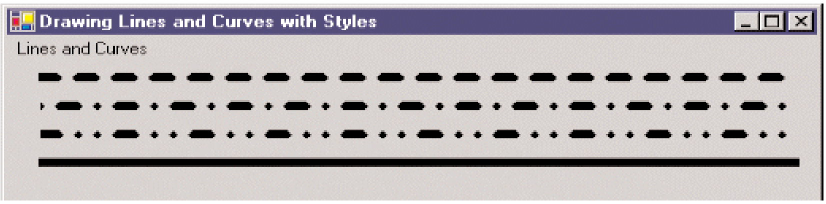


FIGURE 9.5: Reading line dash styles

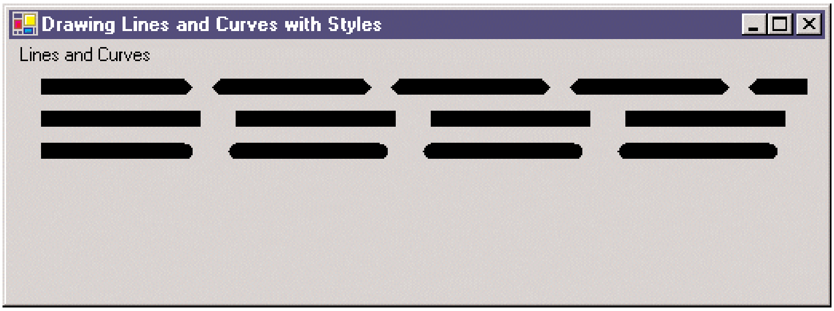


FIGURE 9.6: Getting line dash caps

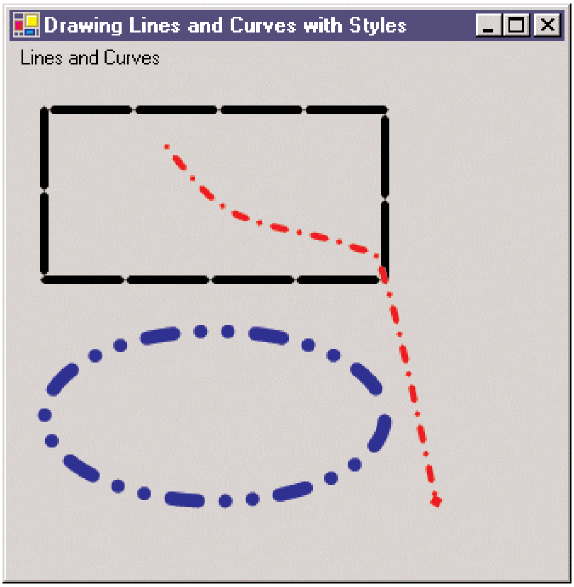


FIGURE 9.7: A rectangle, an ellipse, and a curve with different line styles

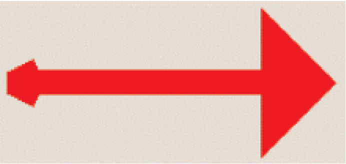
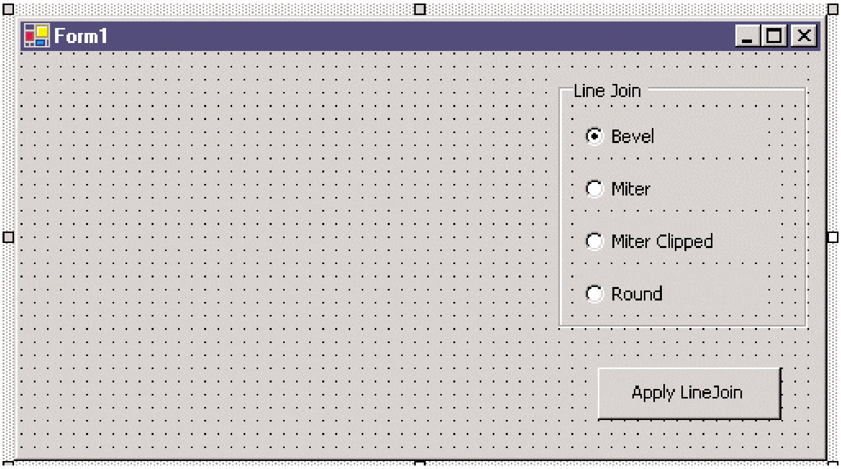
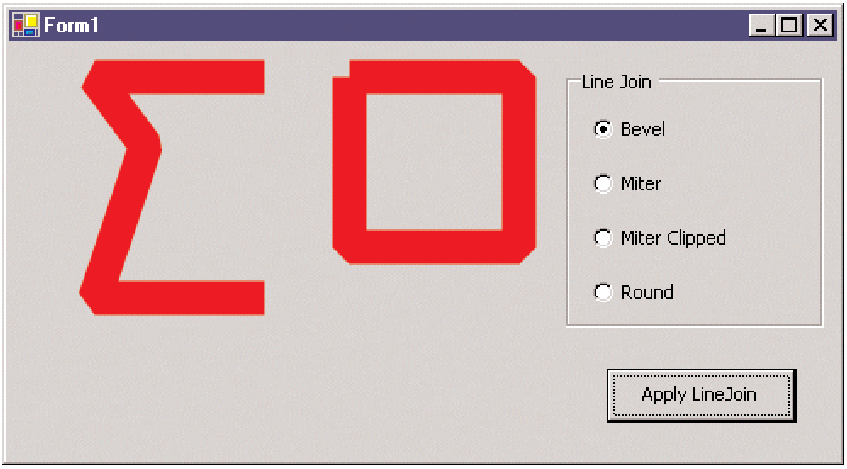


FIGURE 9.8: A line with custom caps

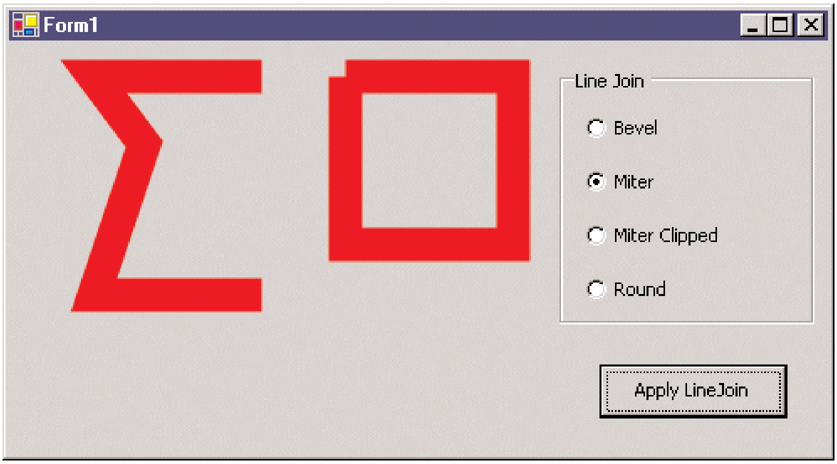


Line Join
● Bevel
○ Miter
○ Miter Clipped
○ Round

FIGURE 9.9: The line join test application



Line Join
● Bevel
○ Miter
○ Miter Clipped
○ Round



Form1

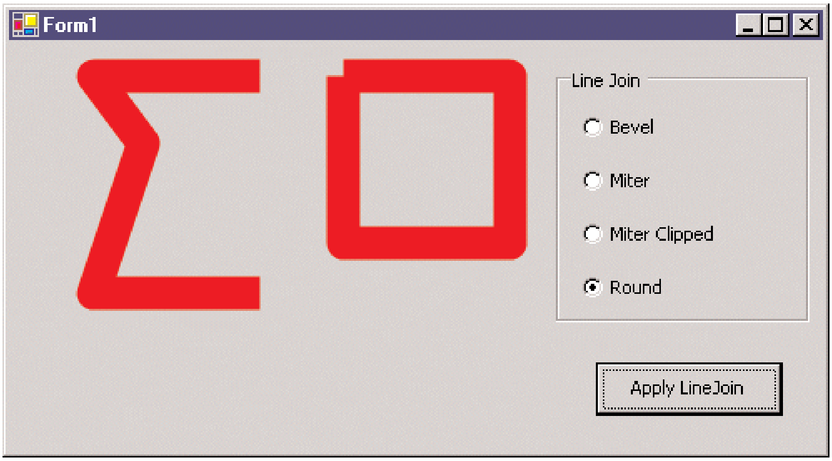
Line Join

○ Bevel

● Miter

○ Miter Clipped

○ Round



Form1

Line Join

○ Bevel

○ Miter

○ Miter Clipped

● Round

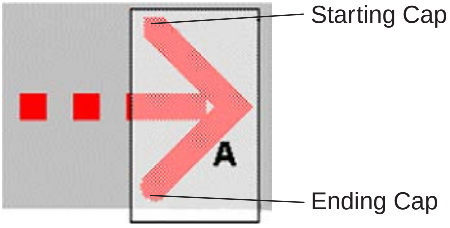


FIGURE 9.13: Customized starting and ending caps

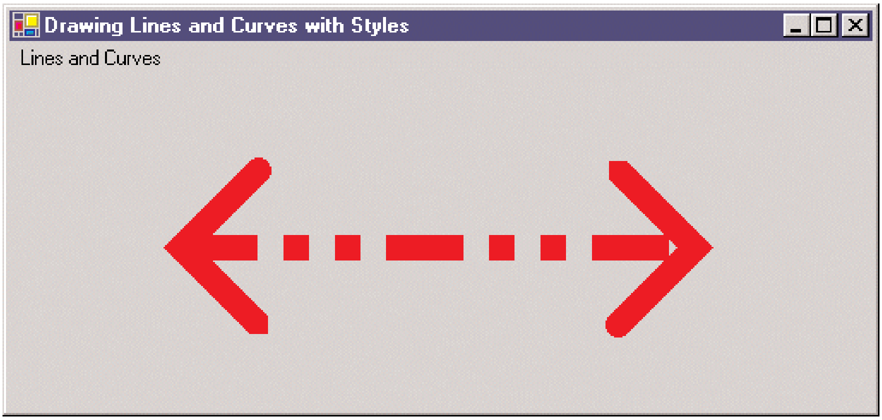


FIGURE 9.14: Setting customized starting and ending caps

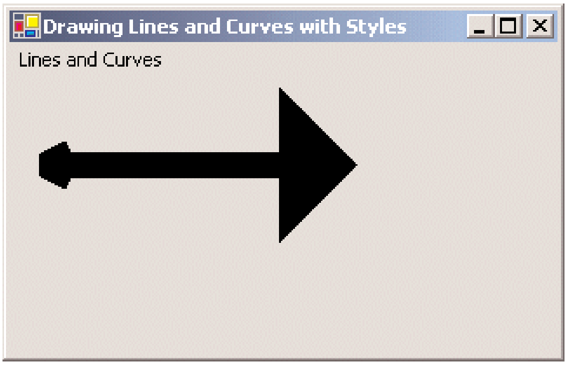


FIGURE 9.15: Adjustable arrow caps

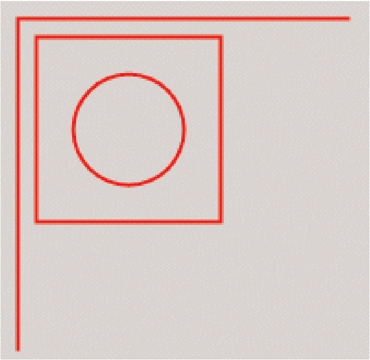


FIGURE 9.16: A simple graphics path

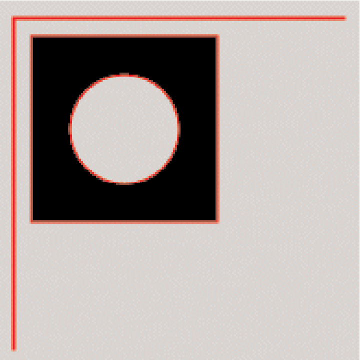


FIGURE 9.17: A filled graphics path

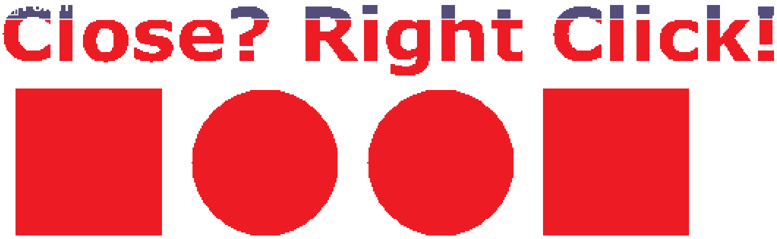


FIGURE 9.18: A shaped form

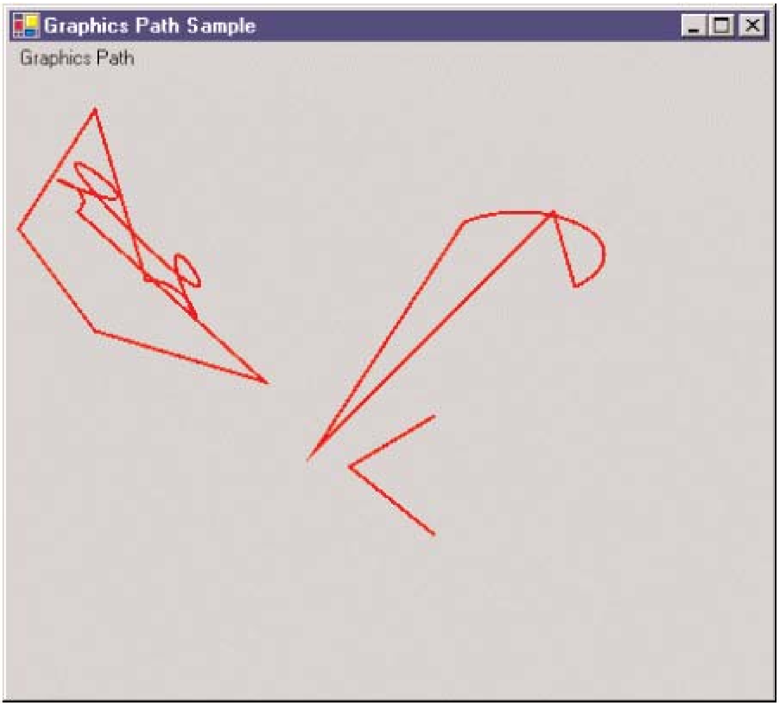
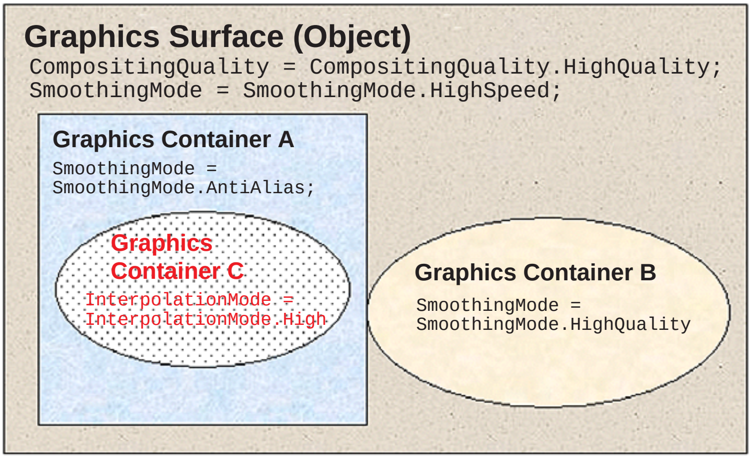


FIGURE 9.19: Three subpaths


Graphics Surface (Object)

```
CompositingQuality = CompositingQuality.HighQuality;
SmoothingMode = SmoothingMode.HighSpeed;
```

Graphics Container A

```
SmoothingMode =
SmoothingMode.AntiAlias;
```

Graphics Container C

```
InterpolationMode =
InterpolationMode.High
```

Graphics Container B

```
SmoothingMode =
SmoothingMode.HighQuality
```

FIGURE 9.20: Nested containers

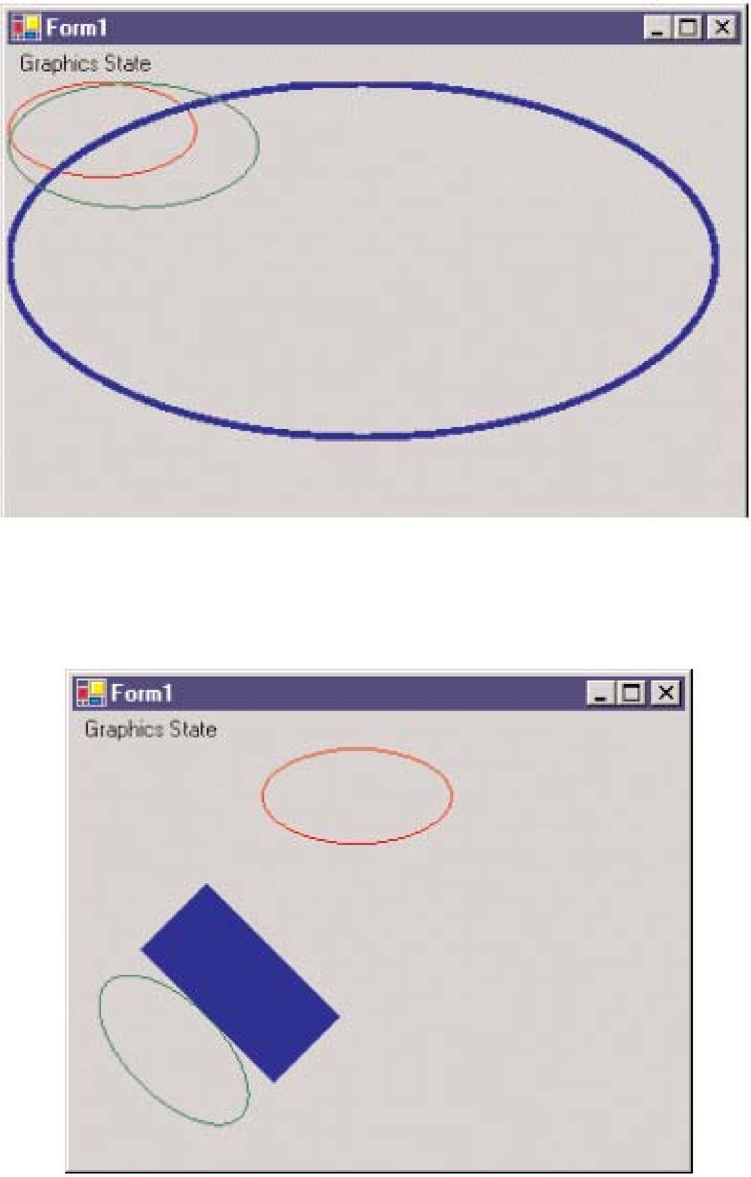


FIGURE 9.22: Saving and restoring graphics states

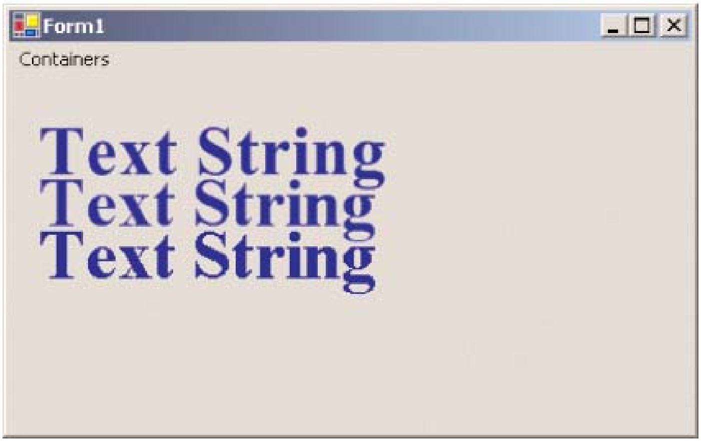


FIGURE 9.23: Using graphics containers to draw text

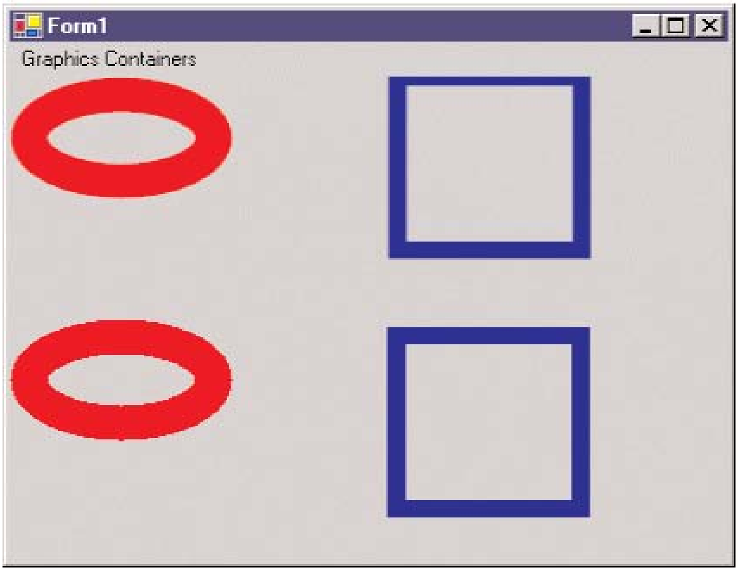
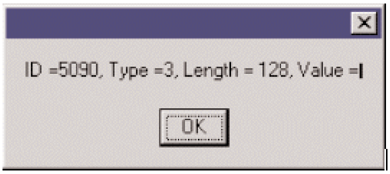


FIGURE 9.24: Using graphics containers to draw shapes



```
ID =5090, Type =3, Length = 128, Value =|
```

FIGURE 9.25: Reading the metadata of a bitmap

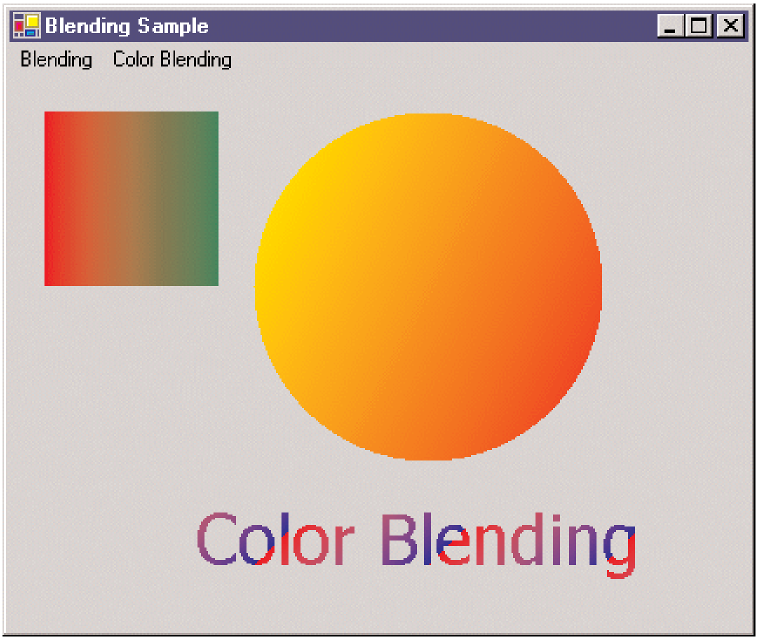


FIGURE 9.26: Color blending examples

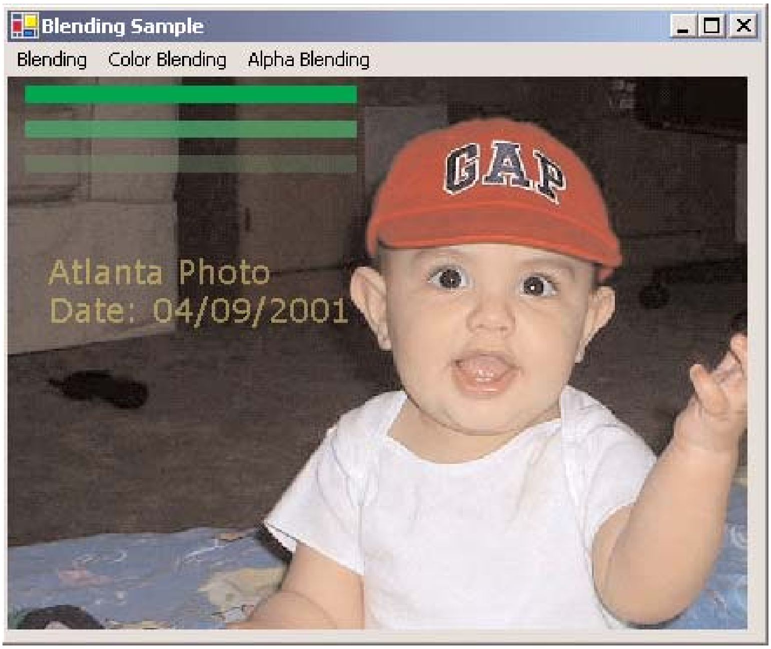


FIGURE 9.27: Transparent graphics shapes in an image using alpha blending

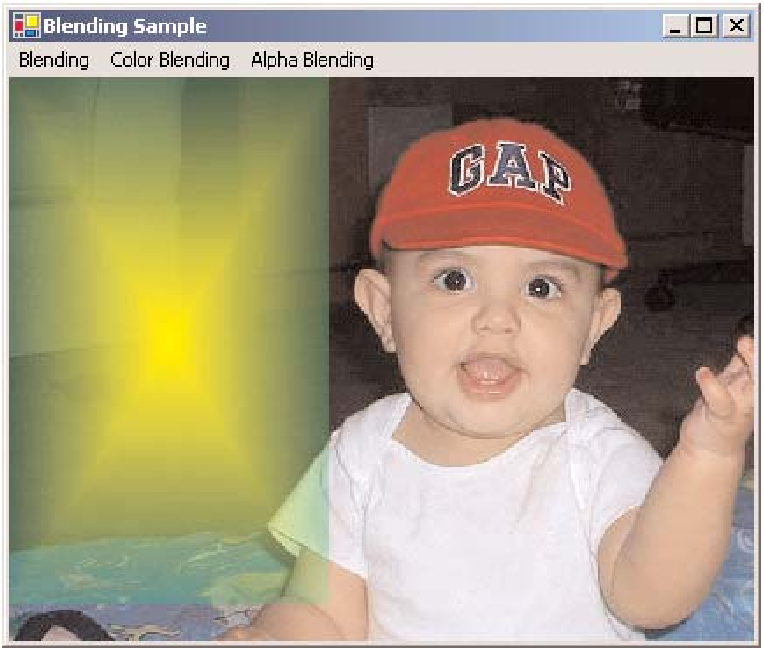


FIGURE 9.28: Mixed blending effects

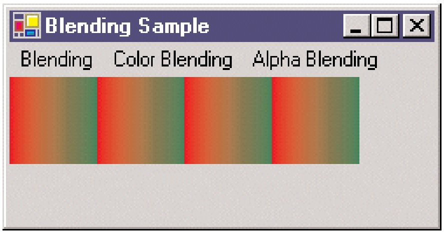


FIGURE 9.29: Using linear gradient brushes

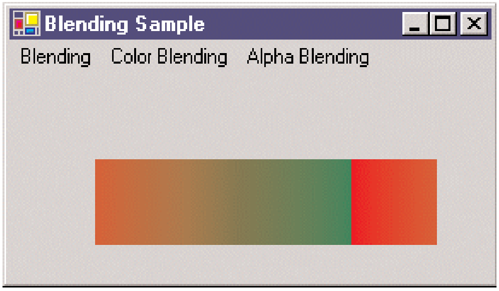
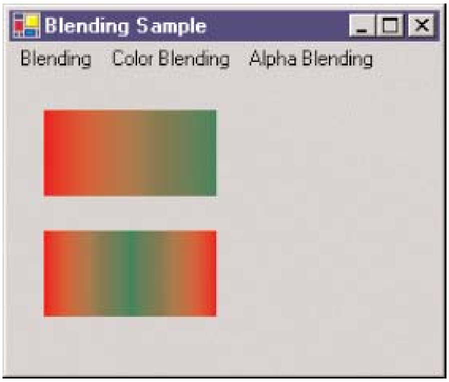
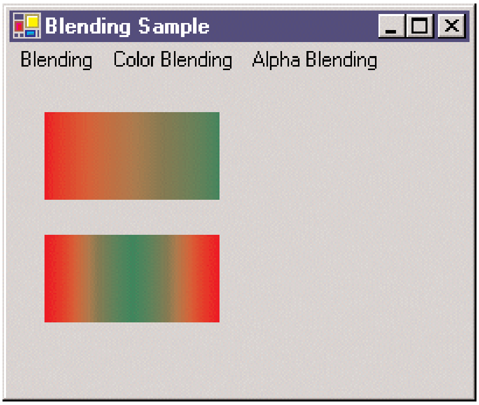


FIGURE 9.30: Using a rectangle in the linear gradient brush


Blending Sample
Blending
Color Blending
Alpha Blending


Blending Sample
Blending
Color Blending
Alpha Blending

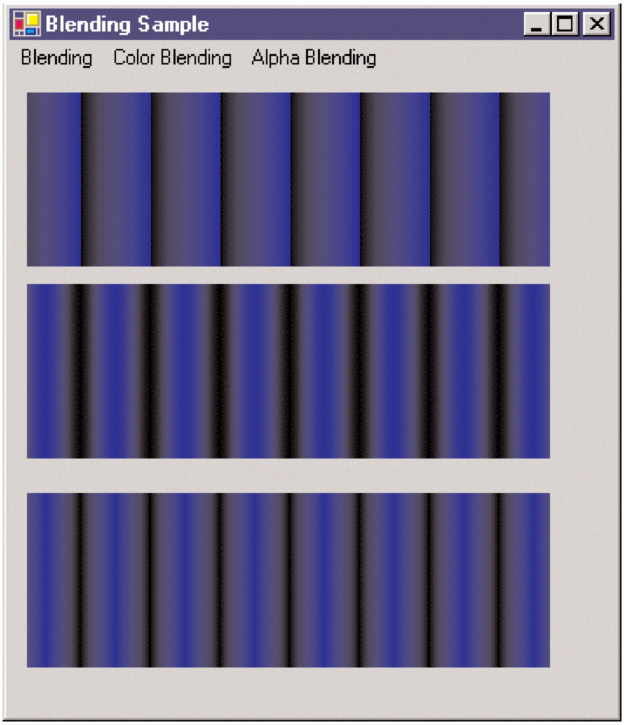


FIGURE 9.33: Comparing the effects of `SetBlendTriangularShape` and `SetSigmaBellShape`

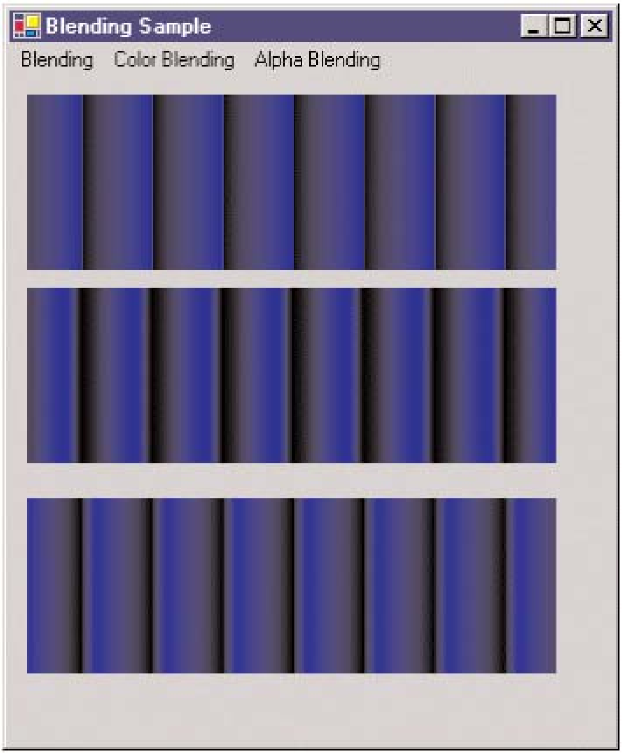


FIGURE 9.34: Setting the center of a gradient

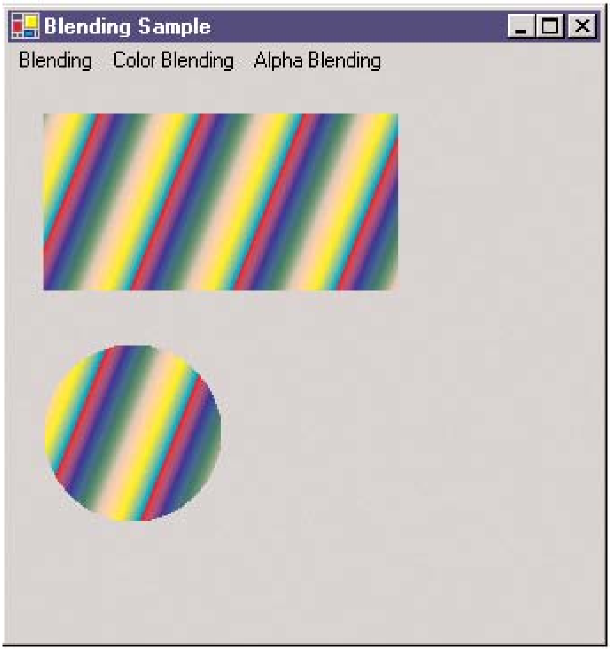


FIGURE 9.35: A multicolor gradient

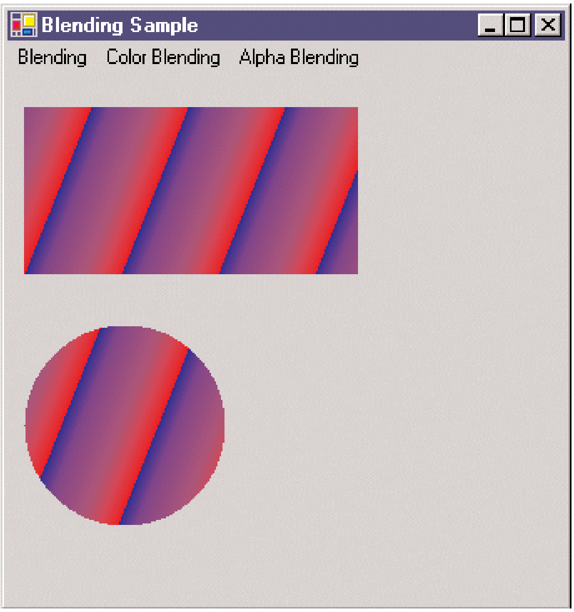


FIGURE 9.36: Using blending in a linear gradient brush

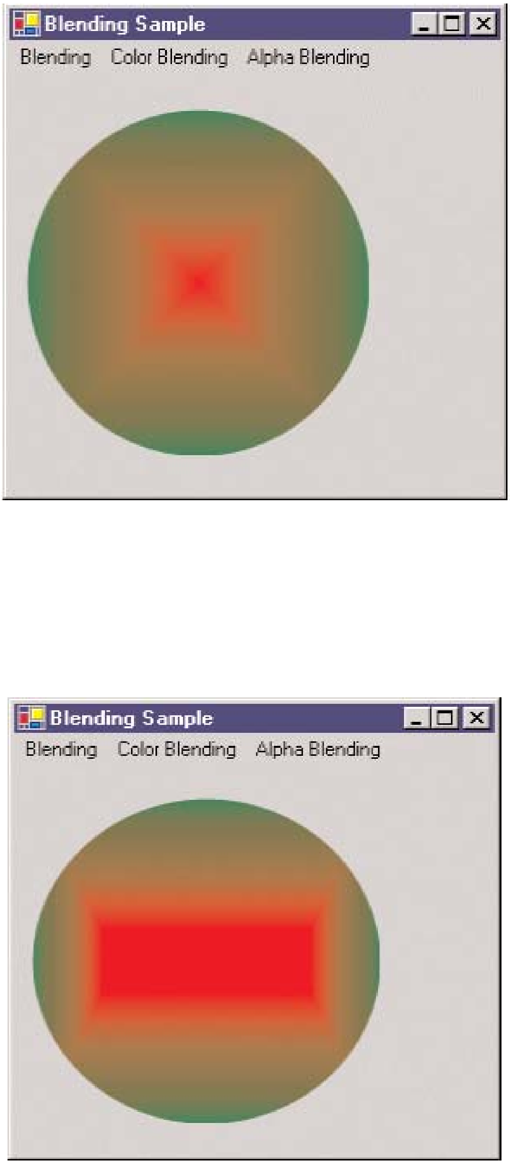


FIGURE 9.38: Setting the focus scale

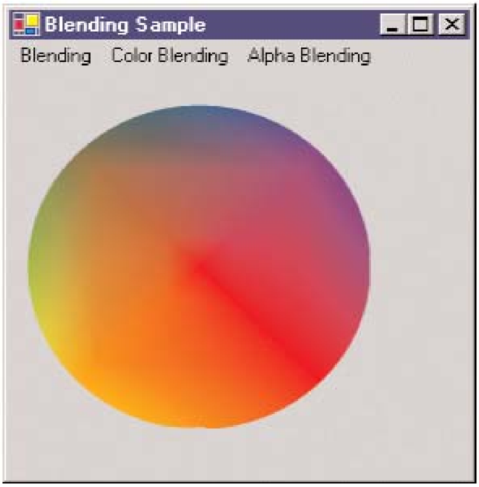
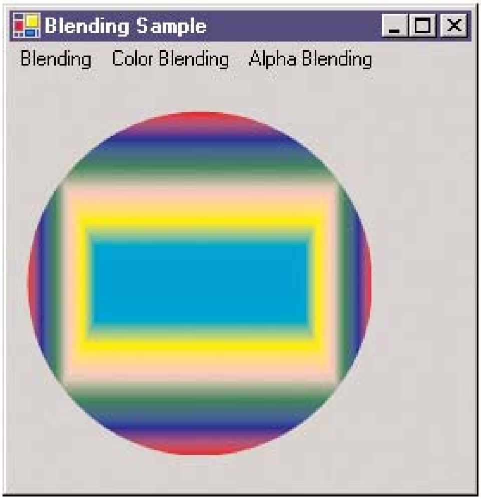


FIGURE 9.39: Blending multiple colors



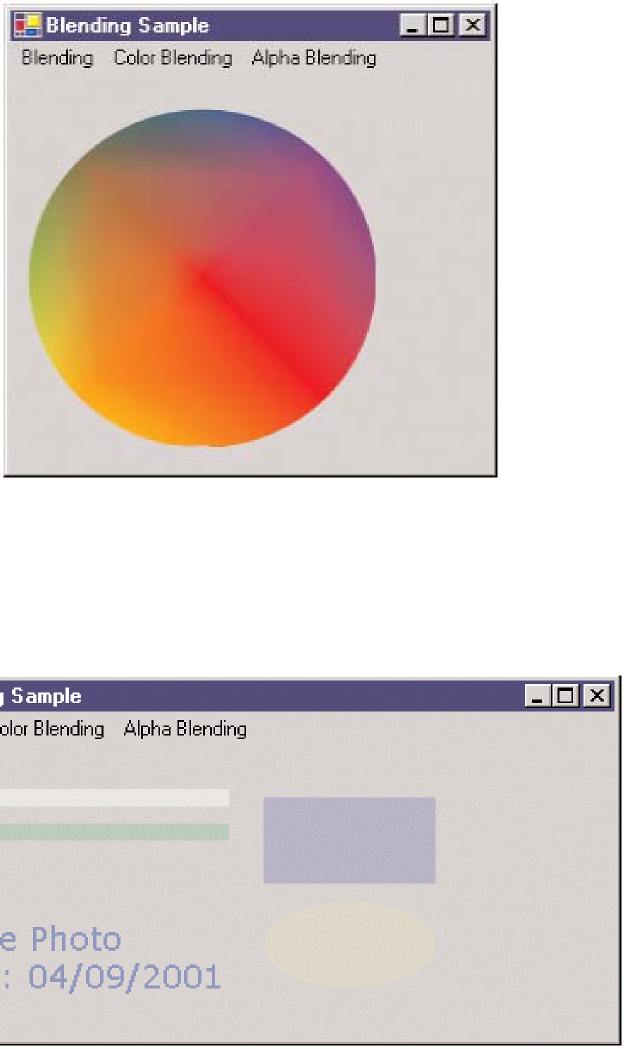


FIGURE 9.42: Drawing semitransparent graphics shapes

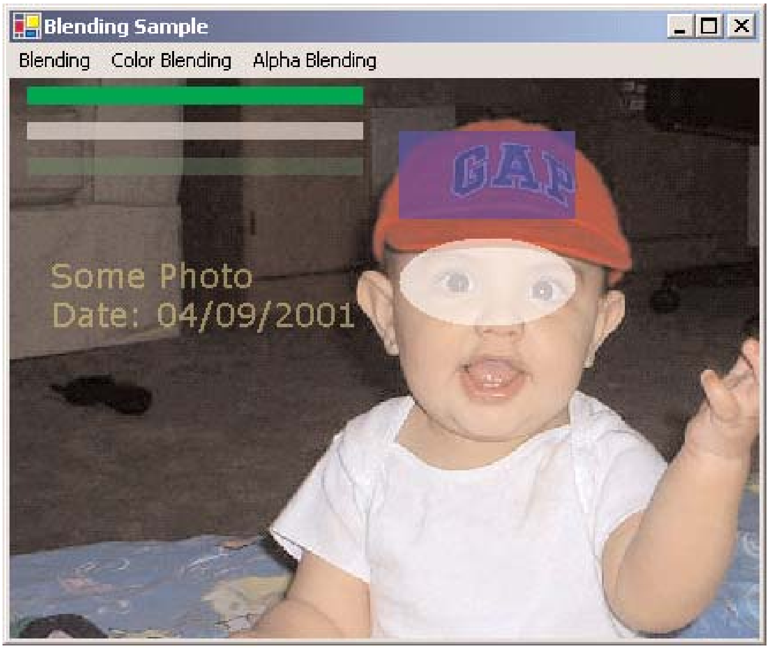
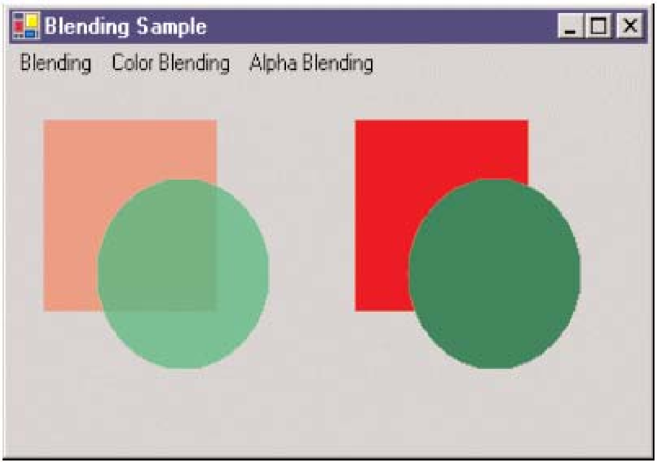
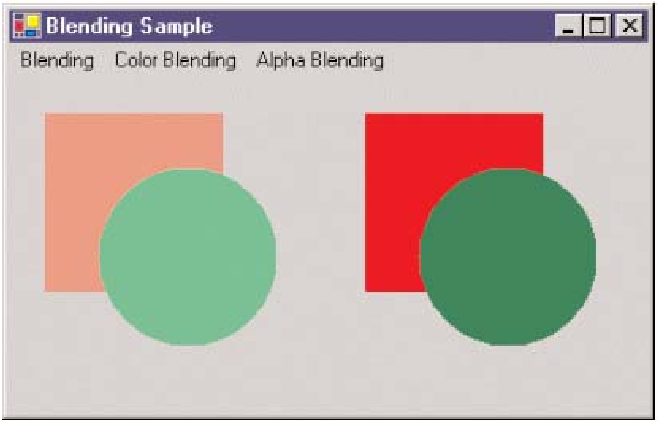


FIGURE 9.43: Drawing semitransparent shapes on an image





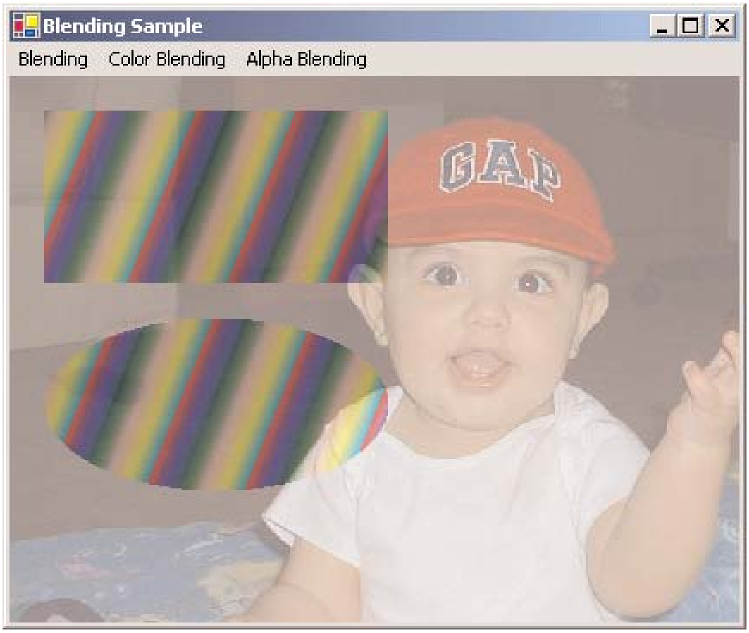
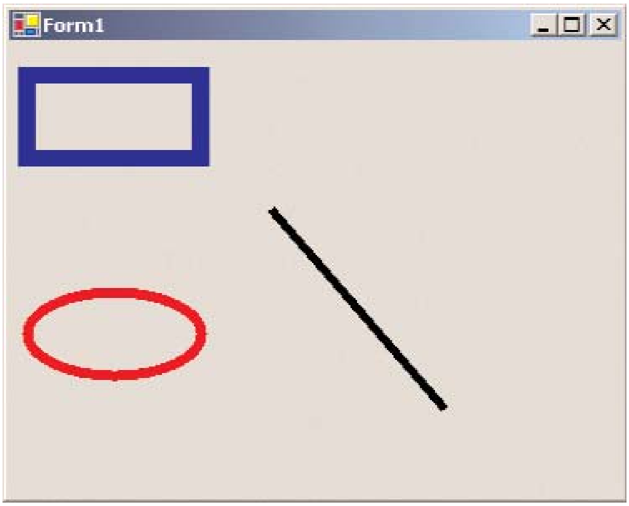
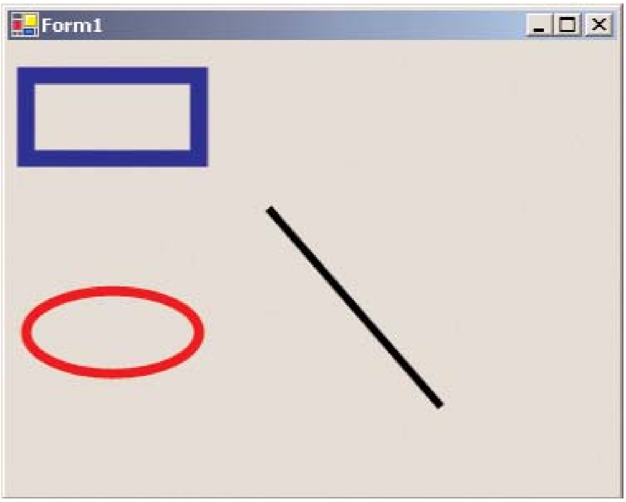


FIGURE 9.46: A mixed blending example


Form1


Form1

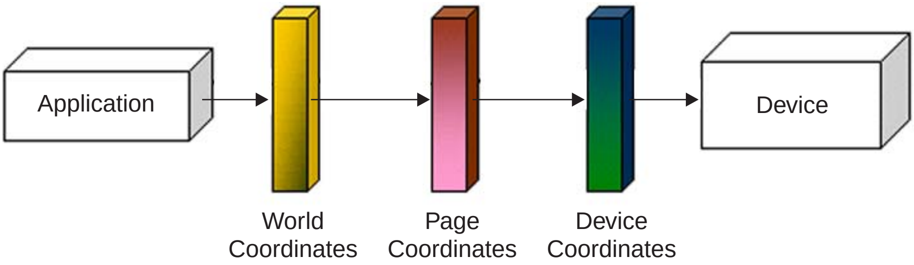


FIGURE 10.1: Steps in the transformation process

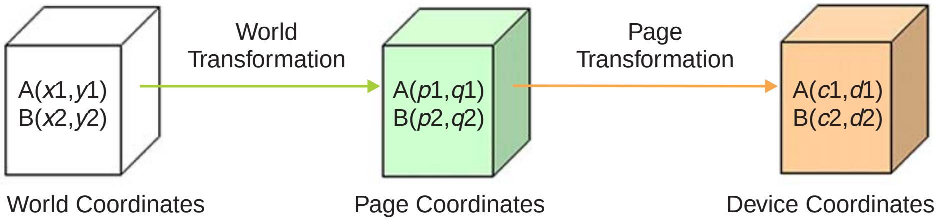


FIGURE 10.2: Transformation stages

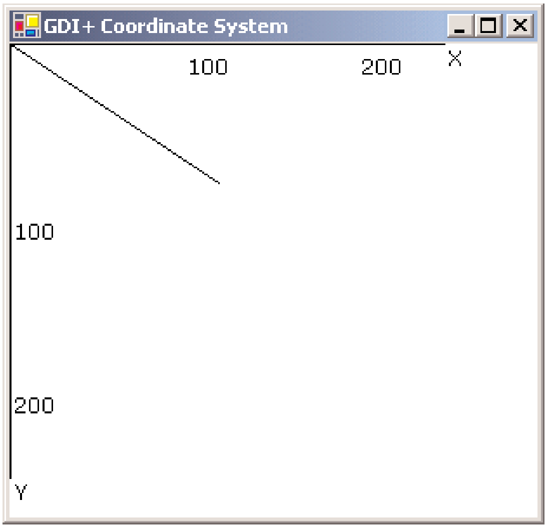


FIGURE 10.3: Drawing a line from point (0, 0) to point (120, 80)

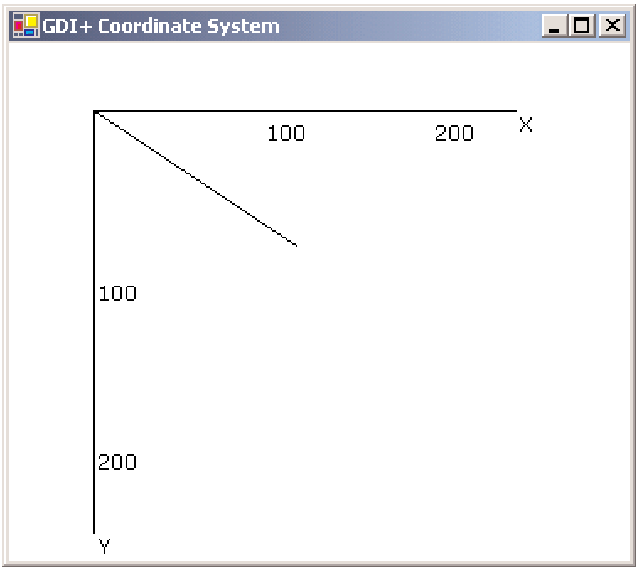
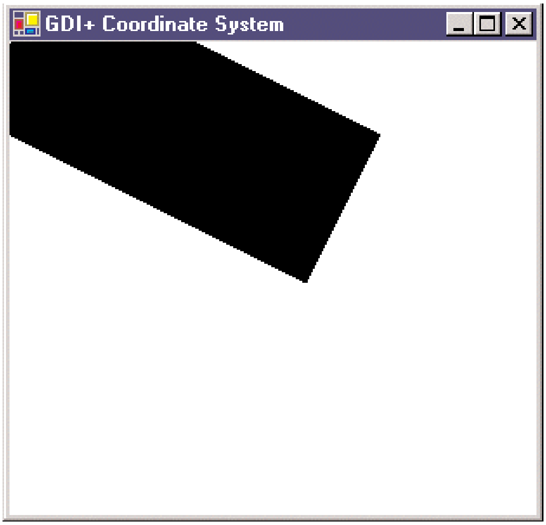


FIGURE 10.4: Drawing a line from point (0, 0) to point (120, 80) with origin (50, 40)



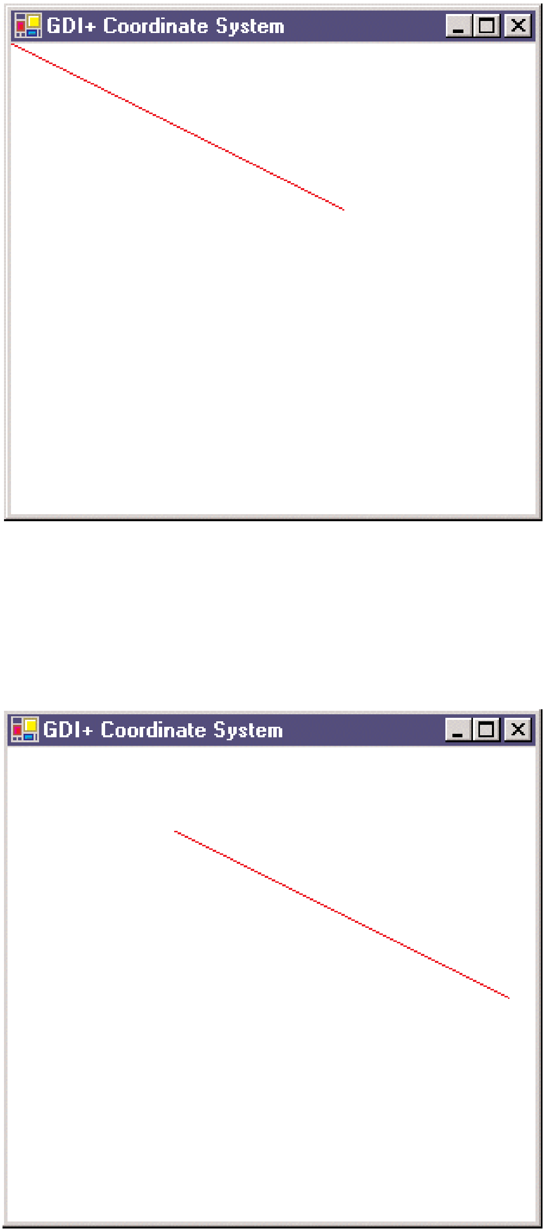


FIGURE 10.7: Combining page and device coordinates

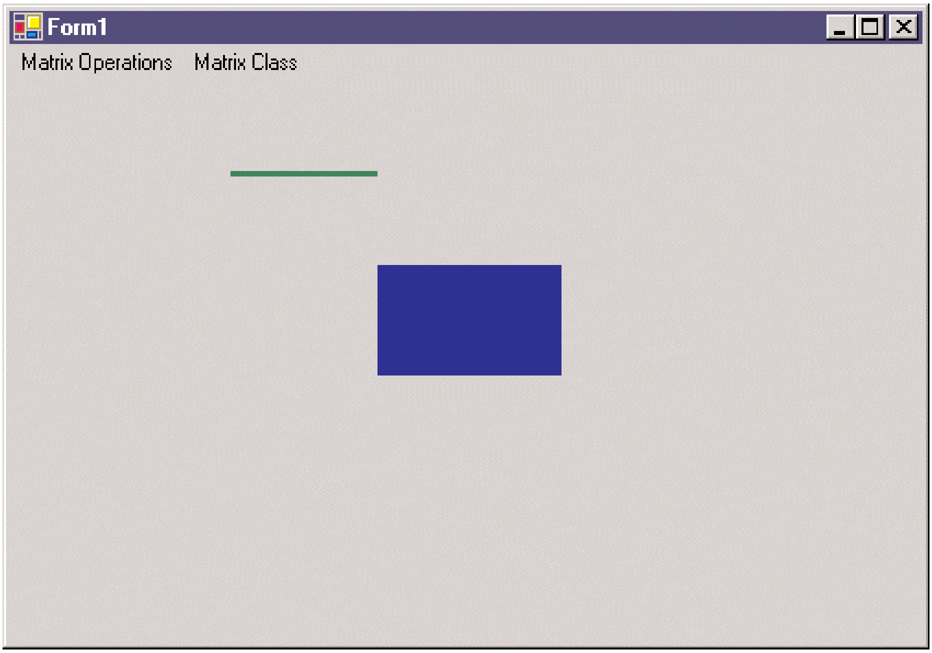


FIGURE 10.8: Drawing a line and filling a rectangle

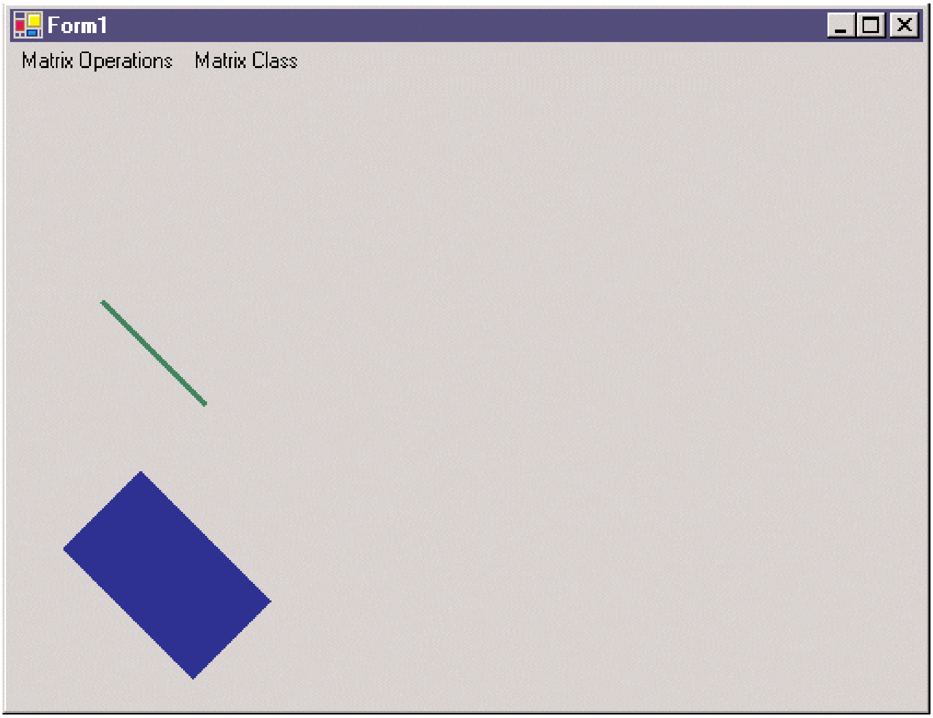
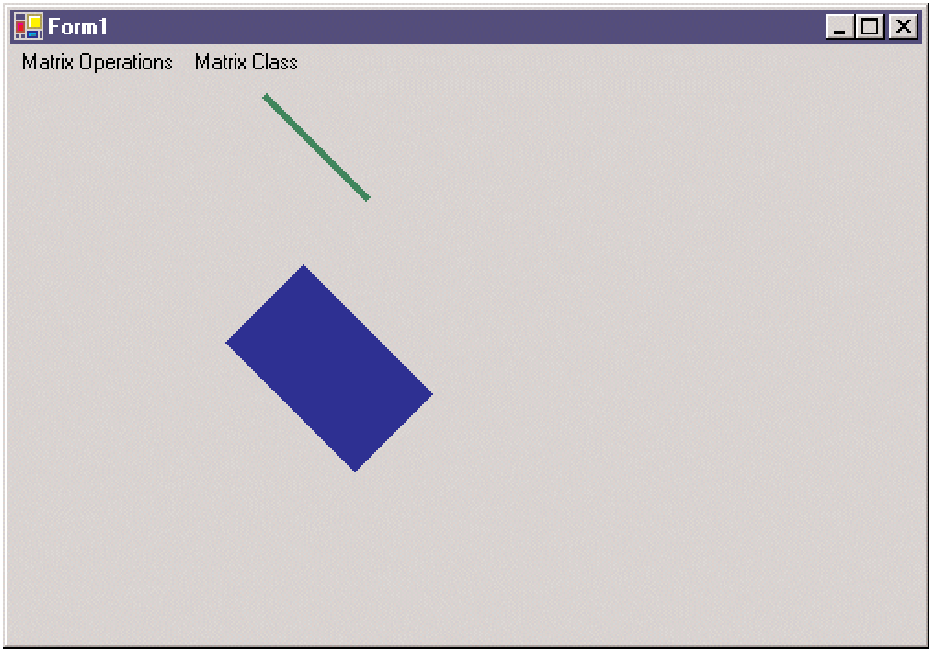


FIGURE 10.9: Rotating graphics objects



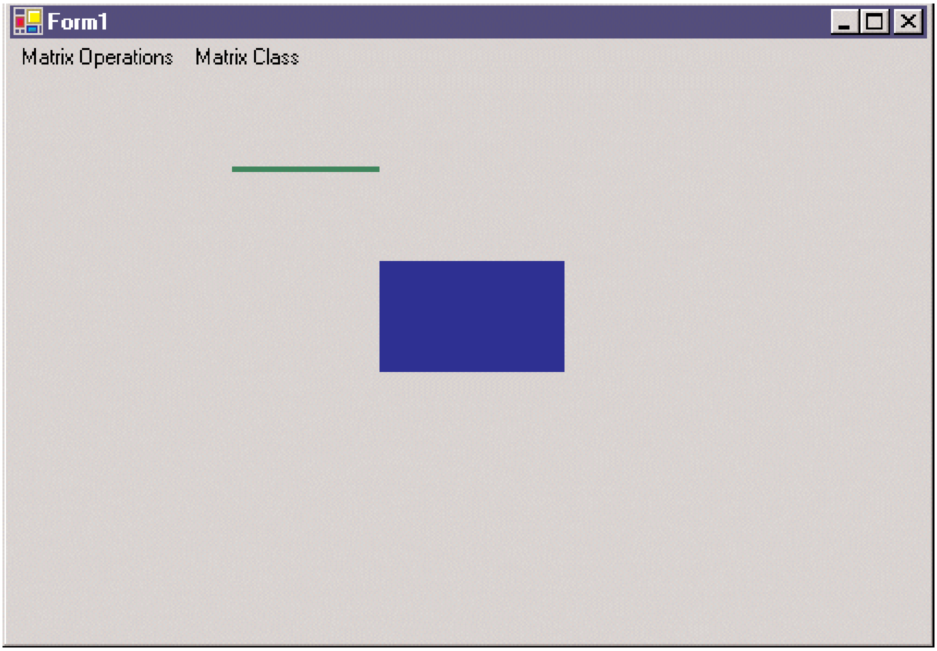


FIGURE 10.11: Resetting a transformation

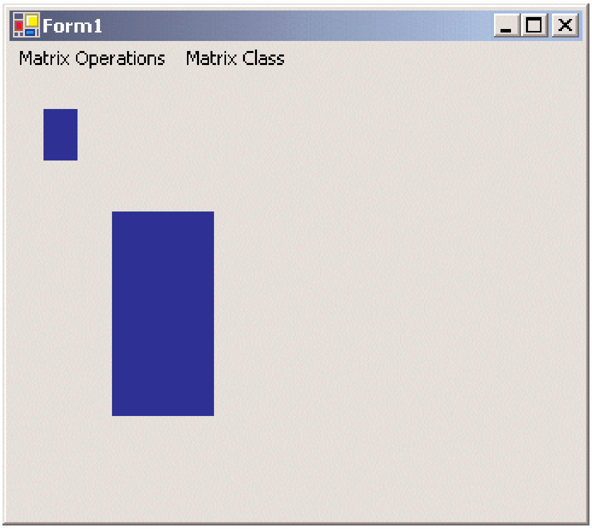


FIGURE 10.12: Scaling a rectangle

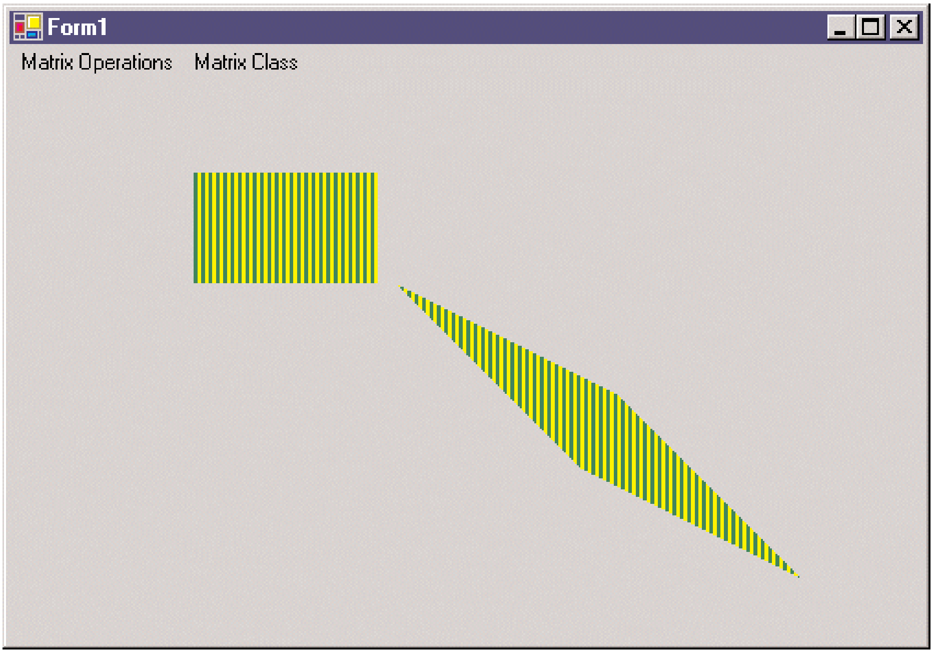


FIGURE 10.13: Shearing a rectangle

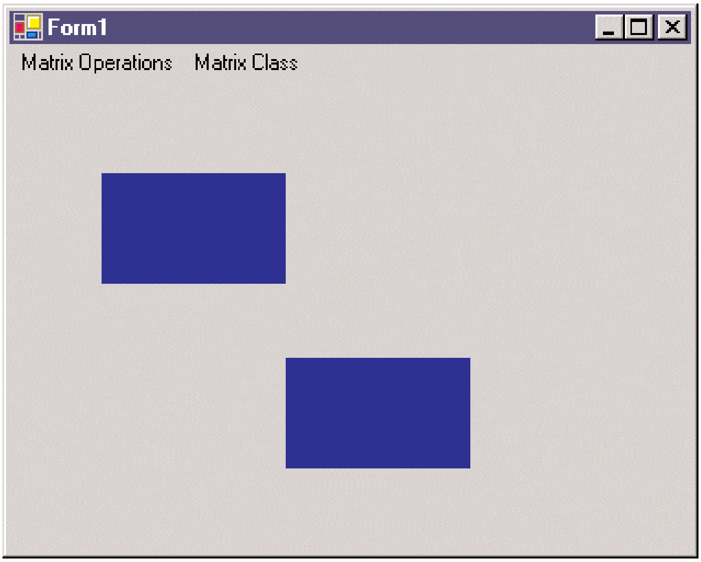


FIGURE 10.14: Translating a rectangle

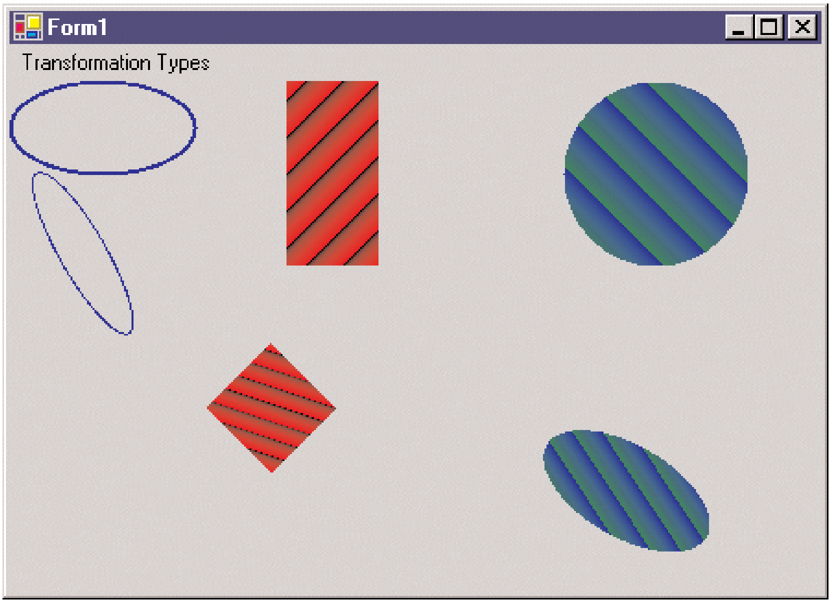


FIGURE 10.15: Composite transformation

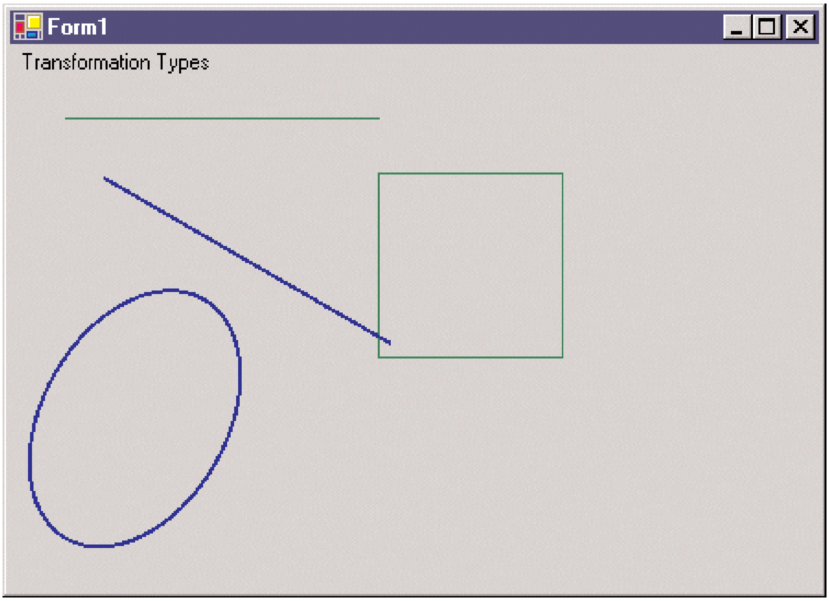


FIGURE 10.16: Local transformation

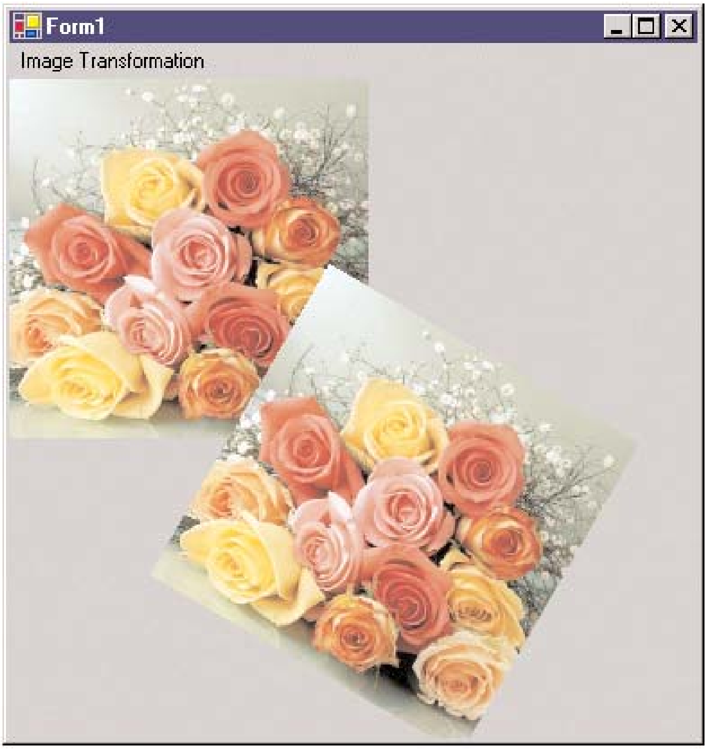


FIGURE 10.17: Rotating images

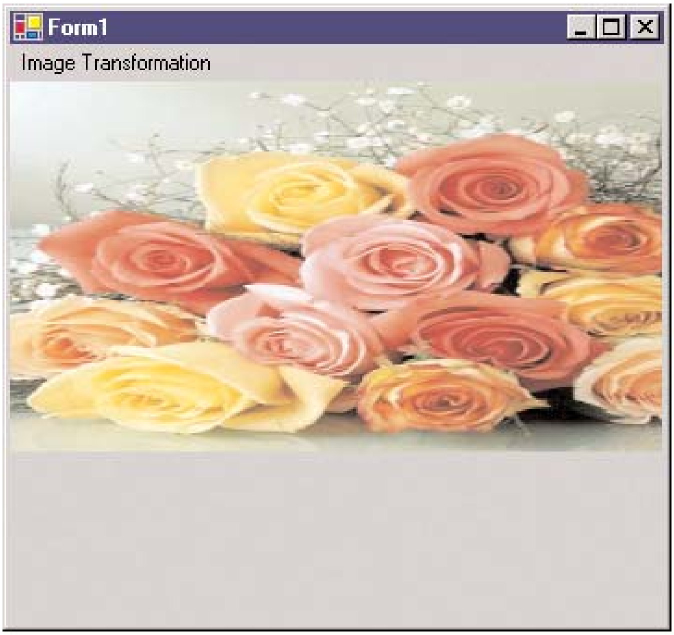


Figure 10.18: Scaling images

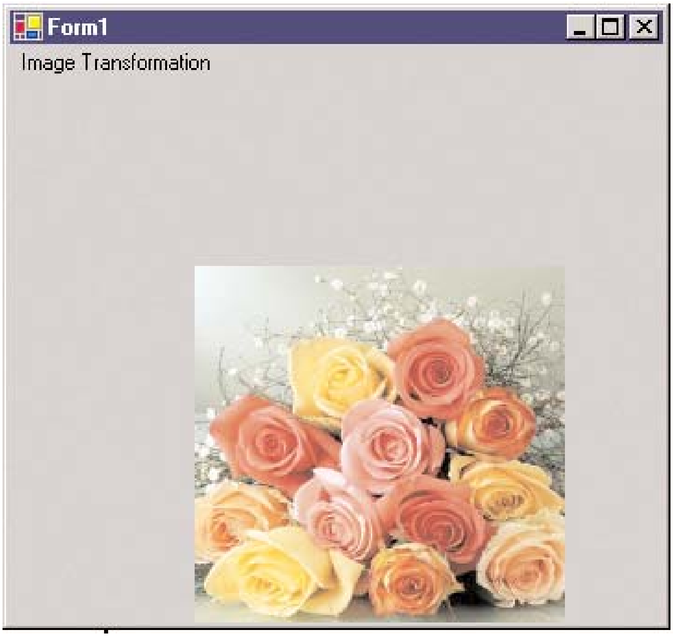


Figure 10.19: Translating images

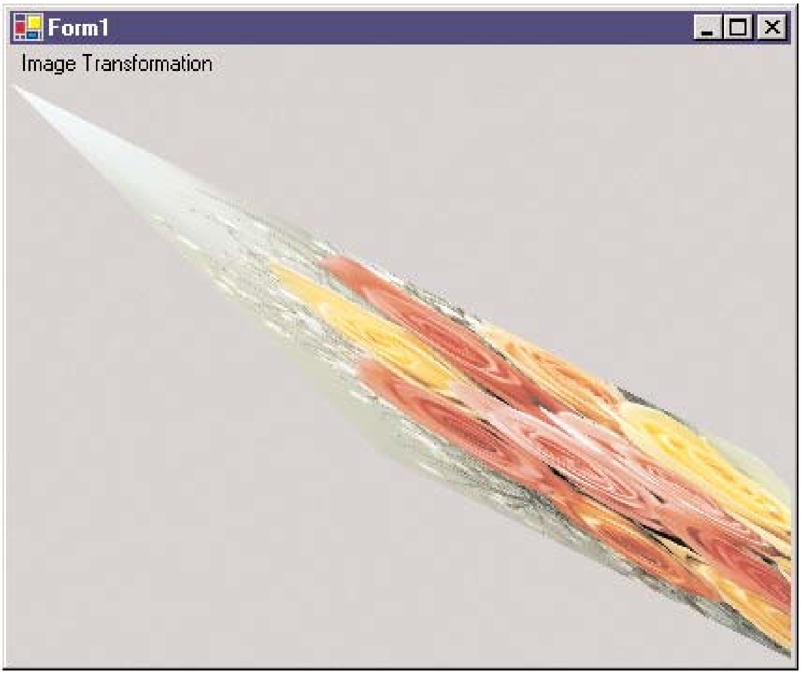


FIGURE 10.20: Shearing images

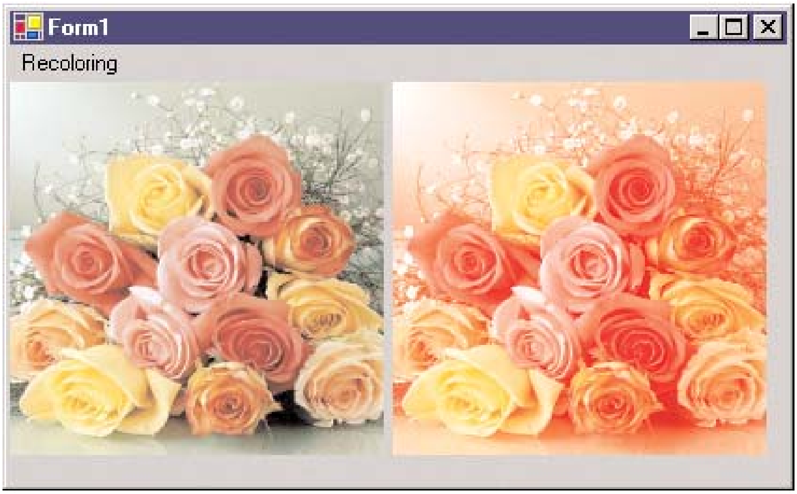


FIGURE 10.24: Translating colors

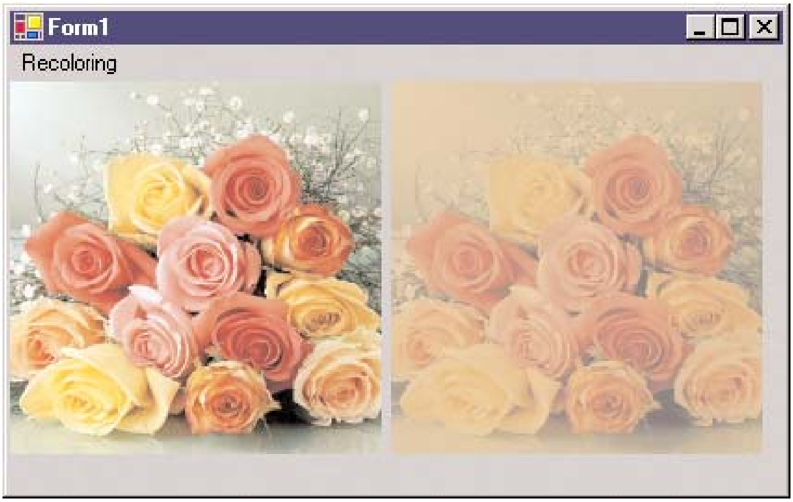


FIGURE 10.25: Scaling colors

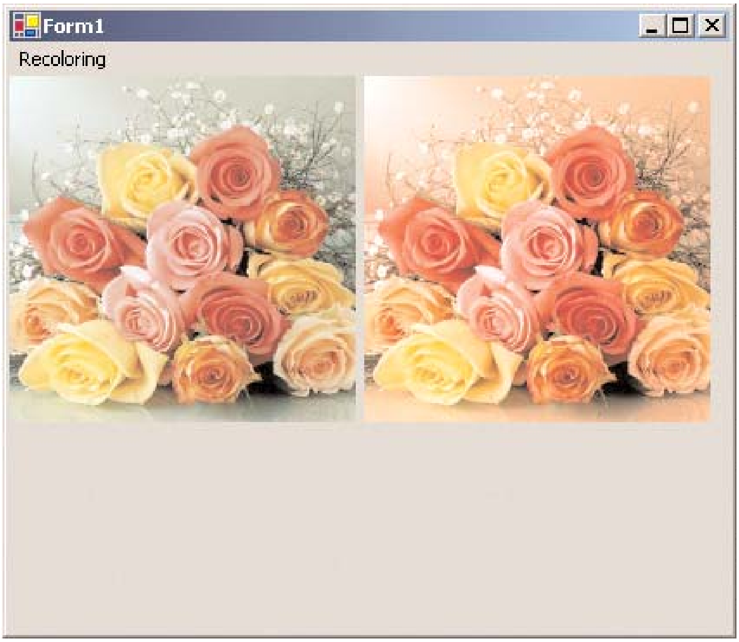


FIGURE 10.26: Shearing colors

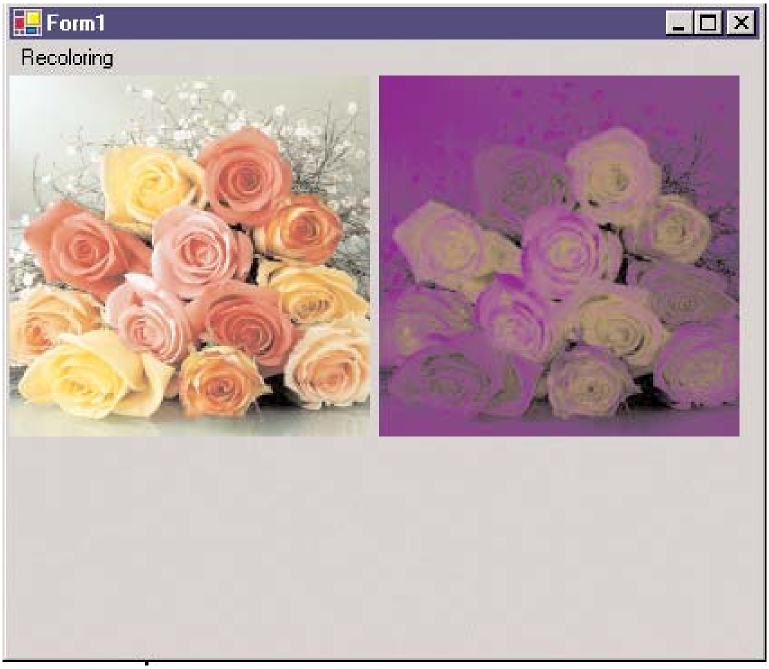
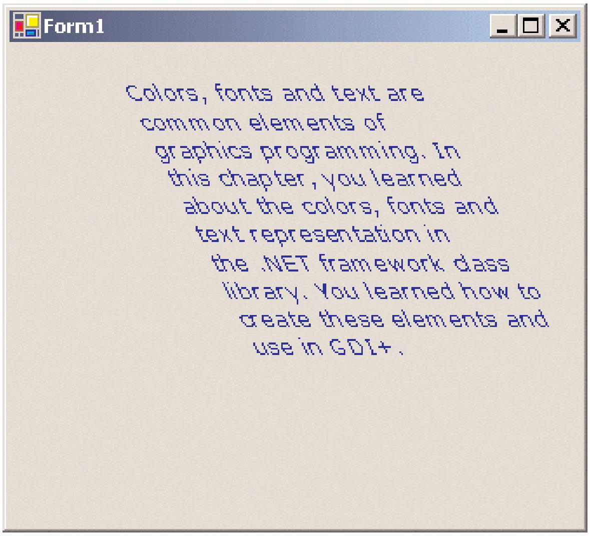
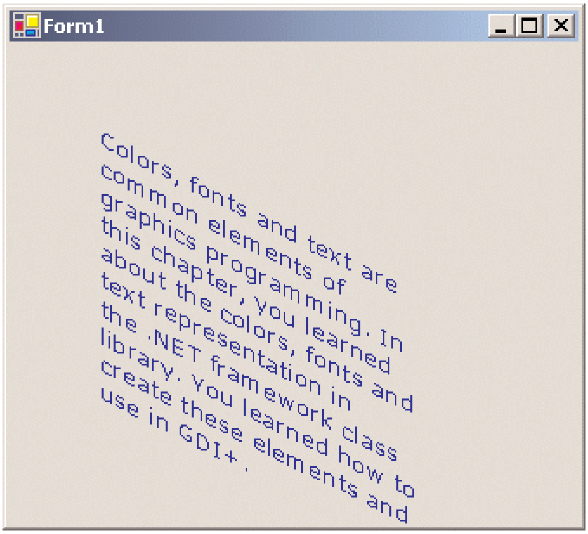


FIGURE 10.29: Rotating colors



Colors, fonts and text are
common elements of
graphics programming. In
this chapter, you learned
about the colors, fonts and
text representation in
the .NET framework class
library. You learned how to
create these elements and
use in GDI+.

FIGURE 10.30: Using the transformation matrix to transform text



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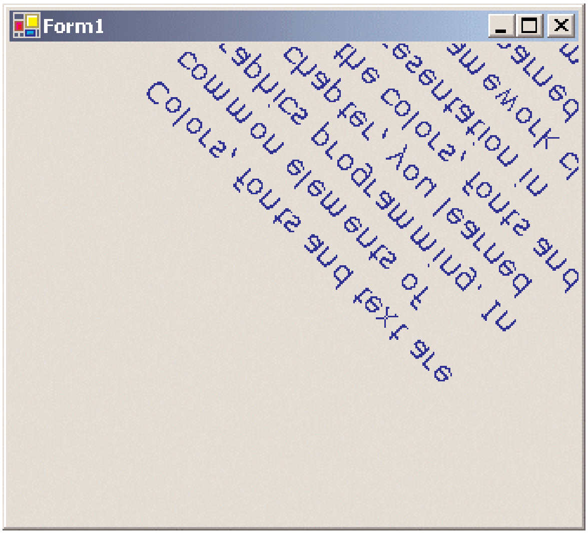
the .NET framework class
library. You learned how to
create these elements and
use in GDI+.

FIGURE 10.31: Using the transformation matrix to shear text



Colors, fonts and text are
common elements of
graphics programming. In
chapter, you learned
the colors, fonts and
sentation in
ework c
earned
n

FIGURE 10.32: Using the transformation matrix to reverse text

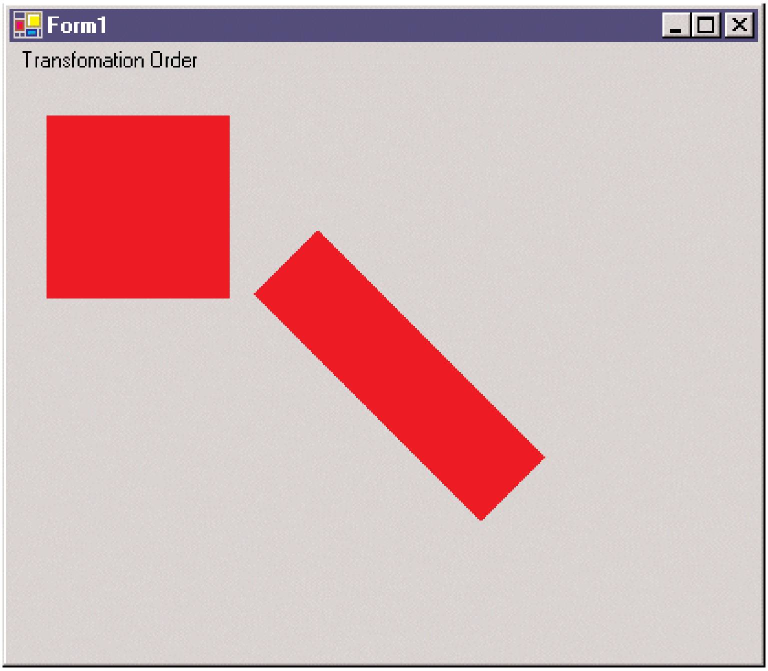
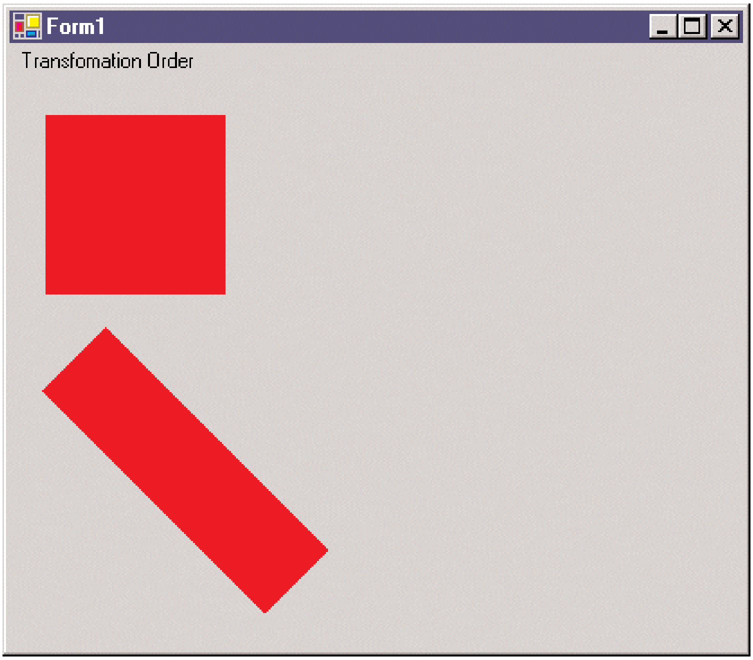
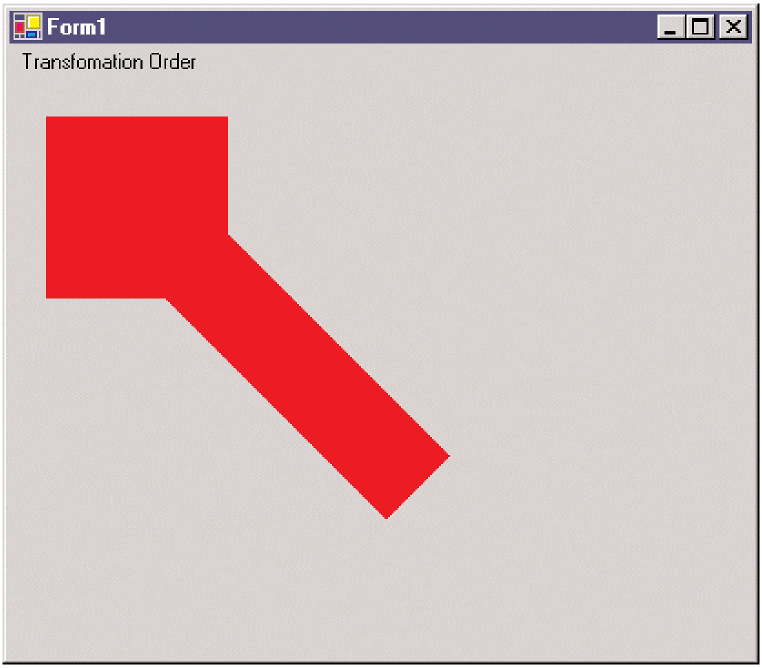
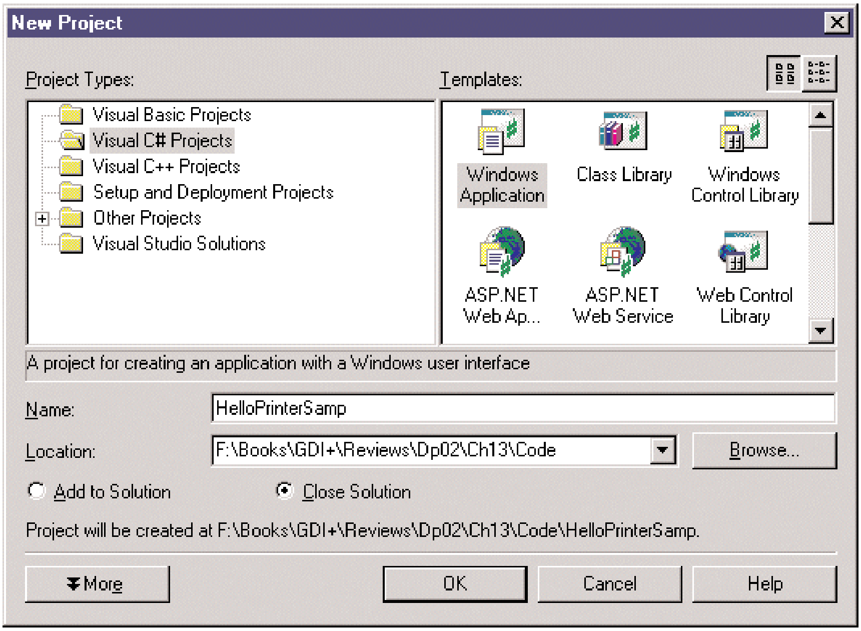


FIGURE 10.33: Scale fi Rotate fi Translate composite transformation







A project for creating an application with a Windows user interface

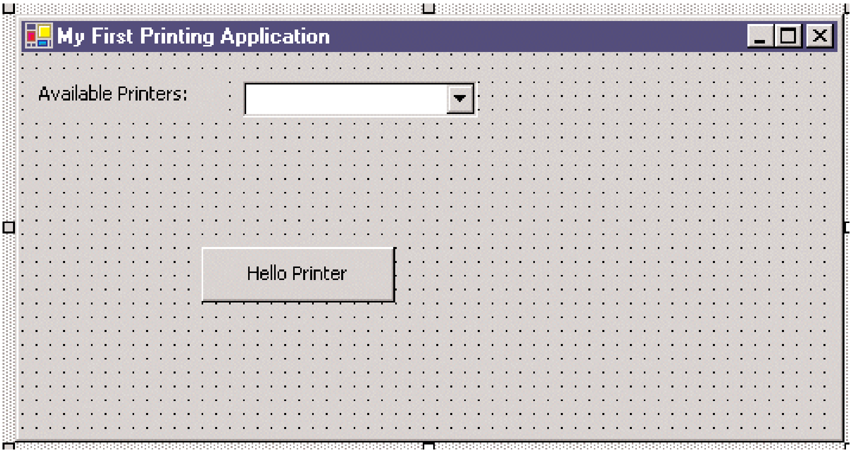
Name: HelloPrinterSamp

Location: F:\Books\GDI+\Reviews\Dp02\Ch13\Code

○ Add to Solution ● Close Solution

Project will be created at F:\Books\GDI+\Reviews\Dp02\Ch13\Code\HelloPrinterSamp.

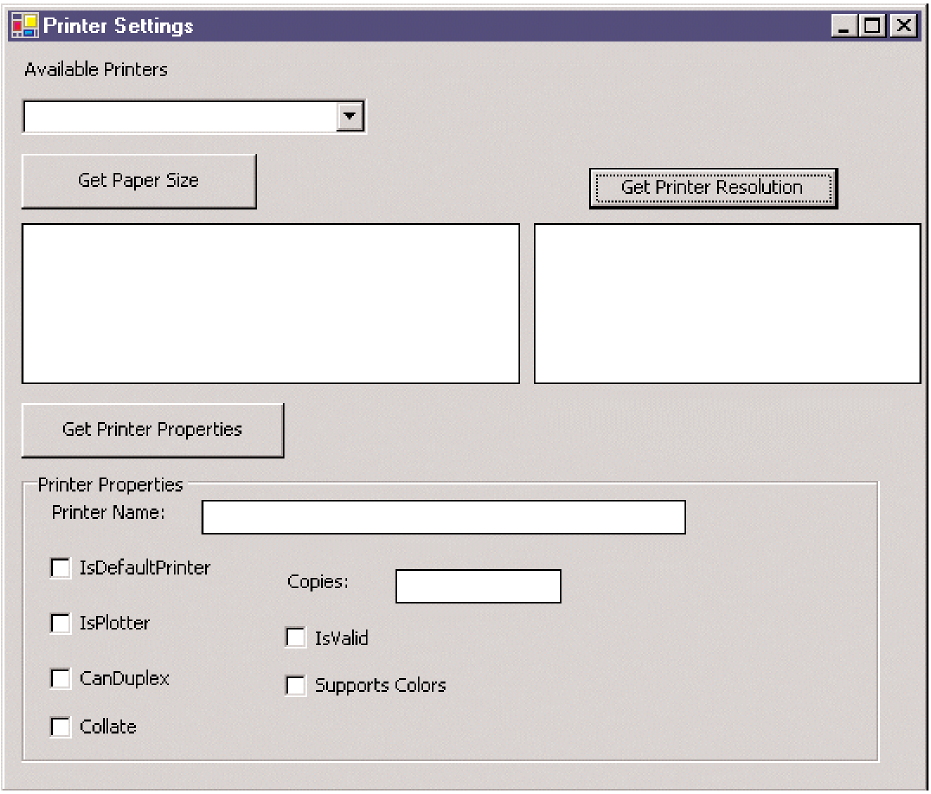
FIGURE 11.6: Creating a Windows application



My First Printing Application

Available Printers:

FIGURE 11.7: Your first printing application



Printer Settings

Available Printers

Printer Properties

Printer Name:

□ IsDefaultPrinter

Copies:

□ IsPlotter

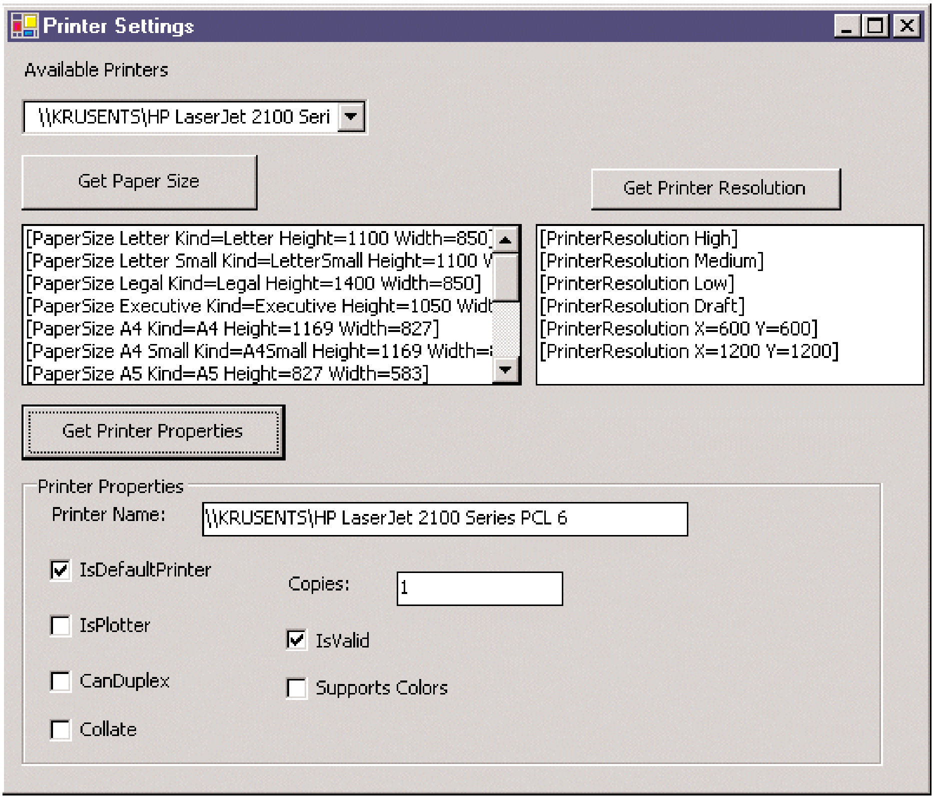
□ IsValid

□ CanDuplex

□ Supports Colors

□ Collate

FIGURE 11.8: The printer settings form



\\KRUSENTS\HP LaserJet 2100 Seri

```
[PaperSize Letter Kind=Letter Height=1100 Width=850]
[PaperSize Letter Small Kind=LetterSmall Height=1100 V
[PaperSize Legal Kind=Legal Height=1400 Width=850]
[PaperSize Executive Kind=Executive Height=1050 Widt
[PaperSize A4 Kind=A4 Height=1169 Width=827]
[PaperSize A4 Small Kind=A4Small Height=1169 Width=
[PaperSize A5 Kind=A5 Height=827 Width=583]
```

```
[PrinterResolution High]
[PrinterResolution Medium]
[PrinterResolution Low]
[PrinterResolution Draft]
[PrinterResolution X=600 Y=600]
[PrinterResolution X=1200 Y=1200]
```

Printer Name: \\KRUSENTS\HP LaserJet 2100 Series PCL 6

☑ IsDefaultPrinter

Copies: 1

☐ IsPlotter

☑ IsValid

☐ CanDuplex

☐ Supports Colors

☐ Collate

FIGURE 11.9: Reading printer properties

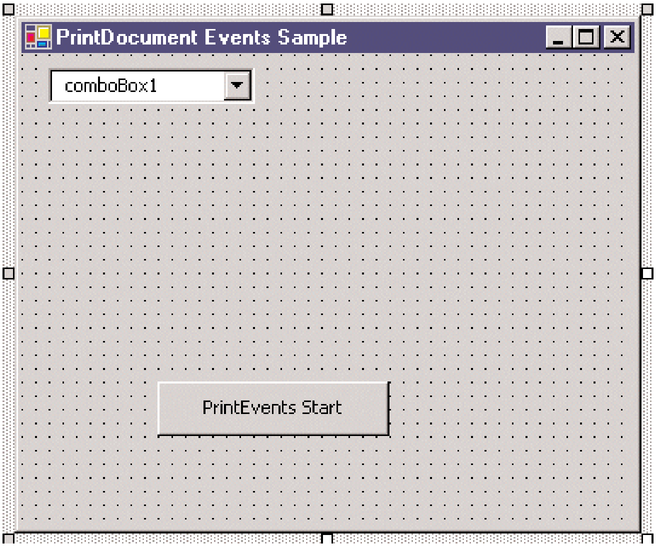


FIGURE 11.11: The print events application

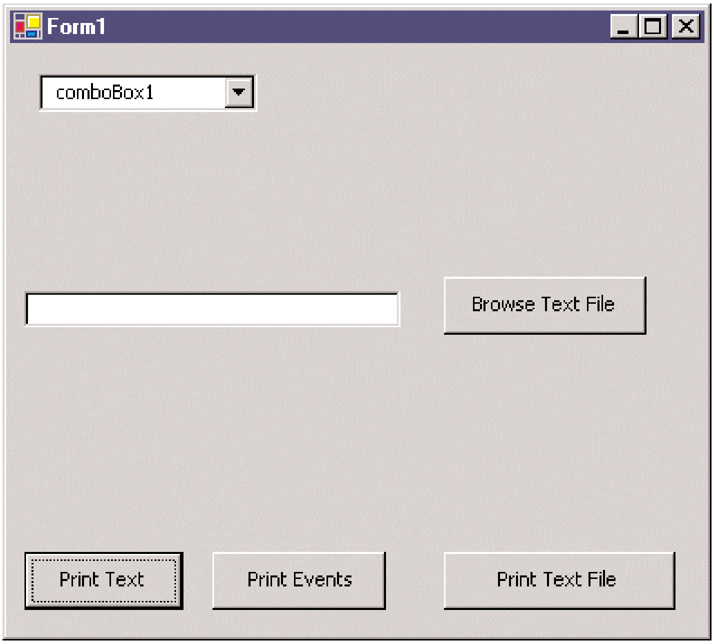


FIGURE 11.12: The form with text file printing options

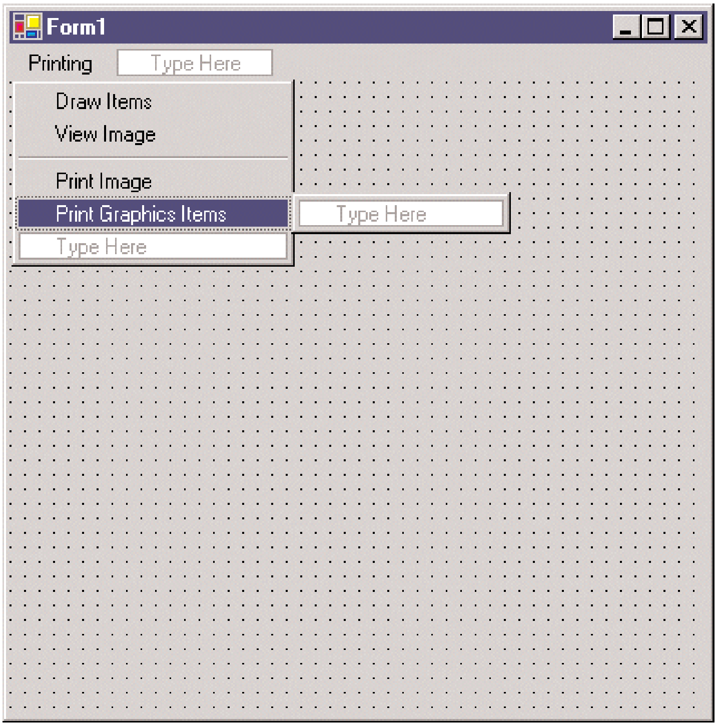


FIGURE 11.13: A graphics-printing application

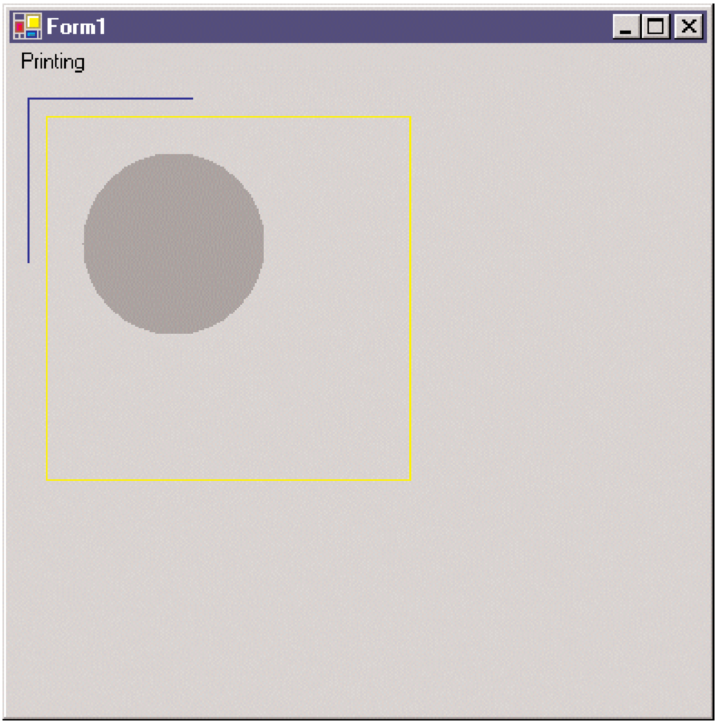


FIGURE 11.14: Drawing simple graphics items

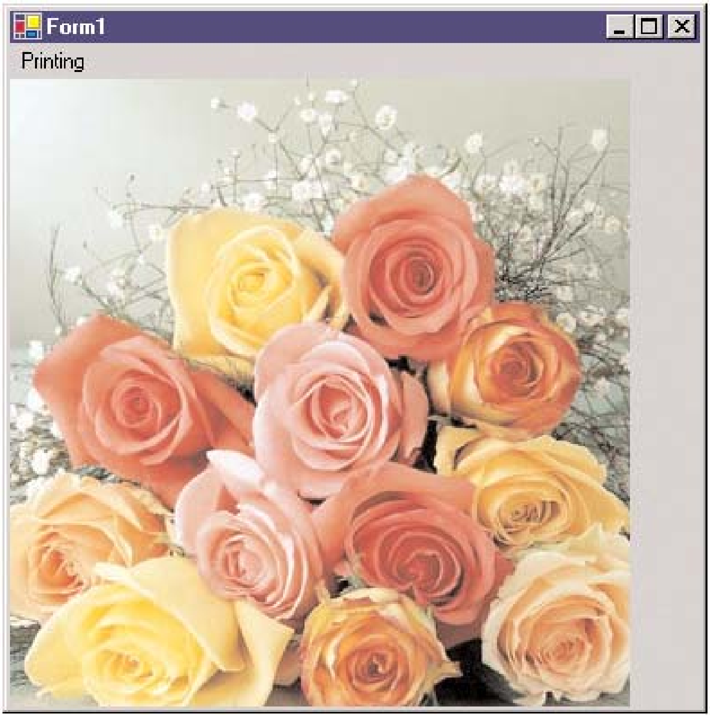


FIGURE 11.15: Viewing an image

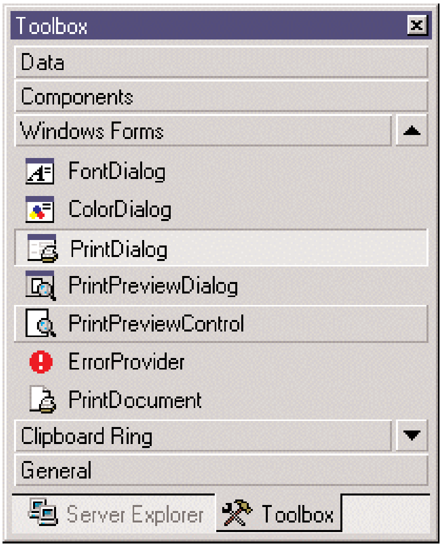


FIGURE 11.16: Print dialogs in the Visual Studio.NET toolbox

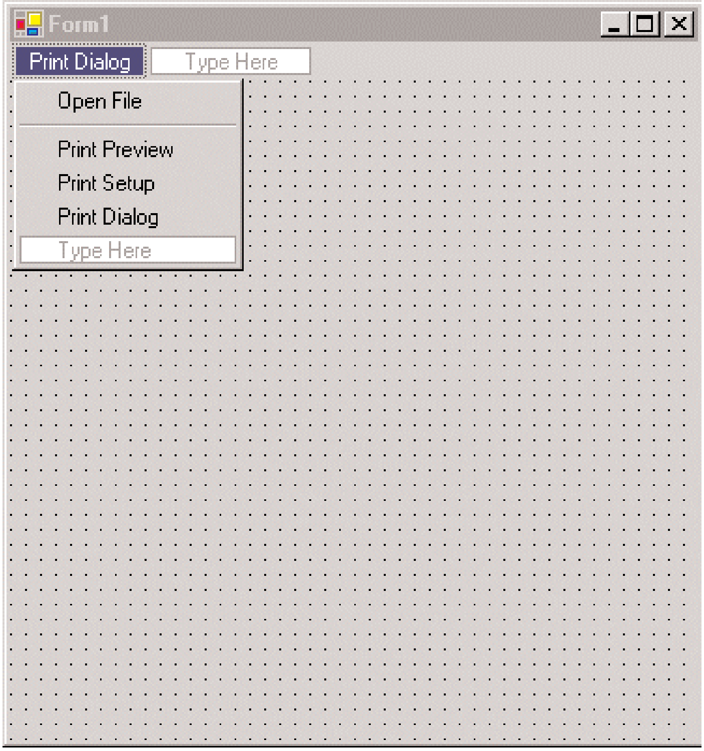


FIGURE 11.17: The print dialog application

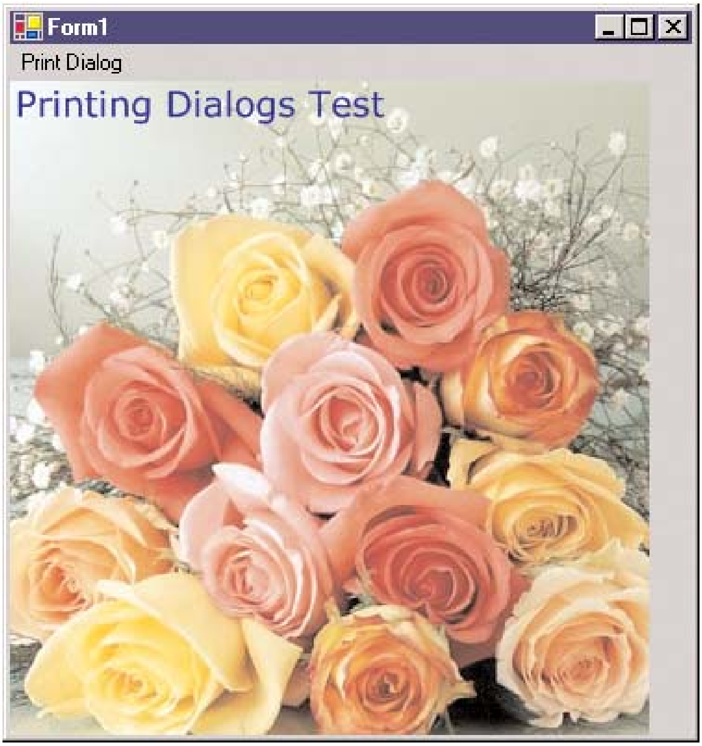


FIGURE 11.18: Viewing an image and text

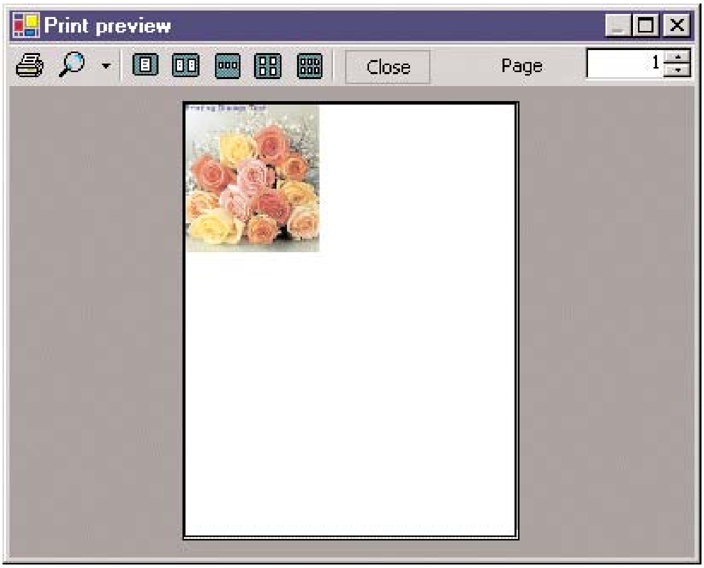
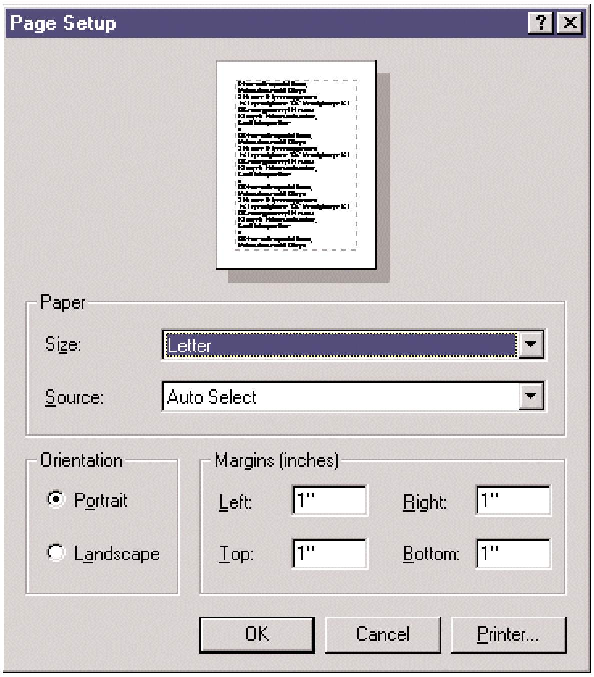


FIGURE 11.19: The print preview dialog



Page Setup

Paper

Size: Letter

Source: Auto Select

Orientation

● Portrait

○ Landscape

Margins (inches)

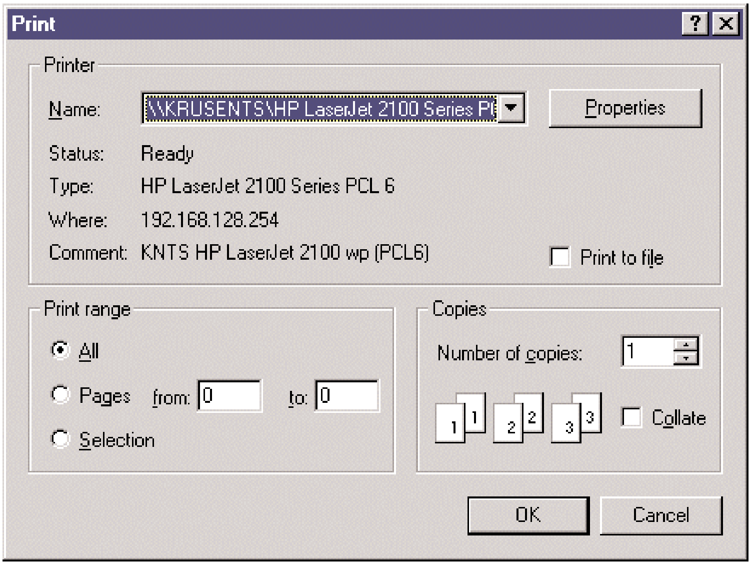
Left: 1"

Right: 1"

Top: 1"

Bottom: 1"

FIGURE 11.20: The page setup dialog



Print

Printer

Name: \\KRUSENTS\HP LaserJet 2100 Series PI

Status: Ready

Type: HP LaserJet 2100 Series PCL 6

Where: 192.168.128.254

Comment: KNTS HP LaserJet 2100 wp (PCL6)

□ Print to file

Print range

● All

○ Pages from: 0 to: 0

○ Selection

Copies

Number of copies: 1

□ Collate

FIGURE 11.21: The print dialog

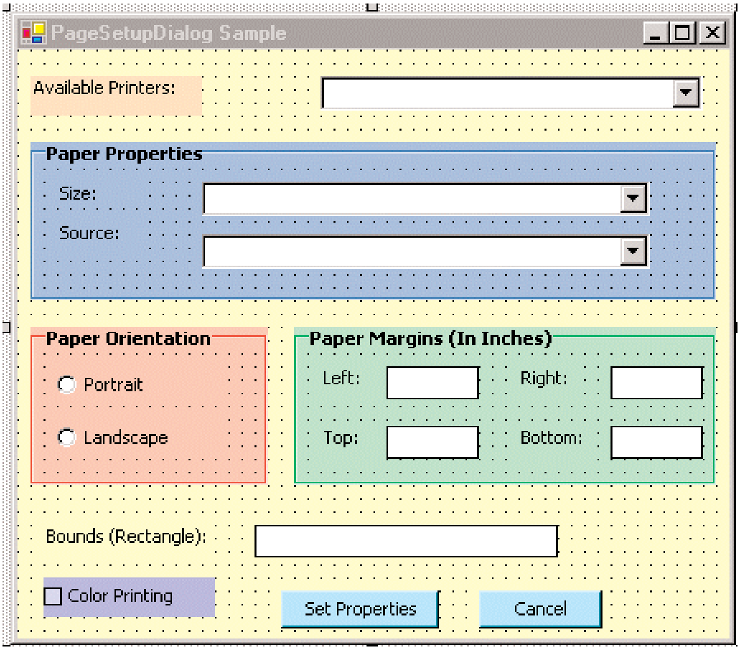
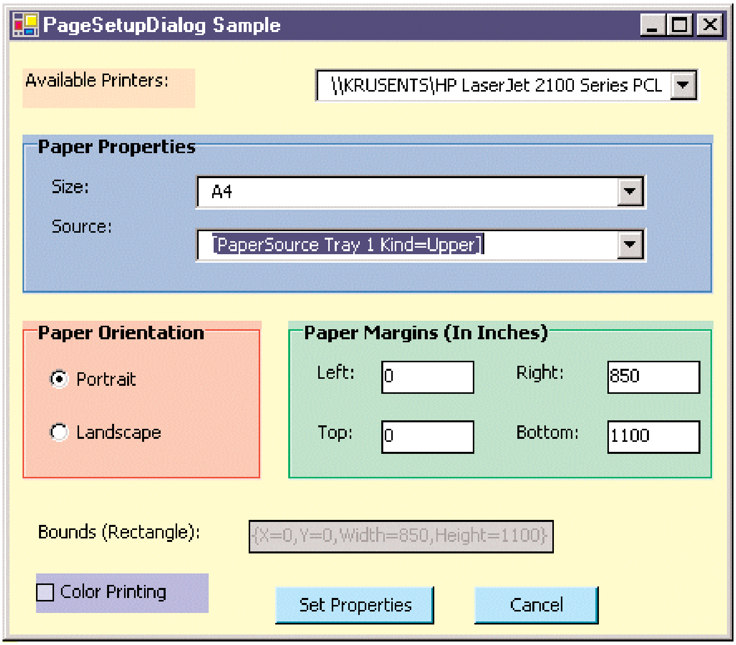


FIGURE 11.22: The custom page settings dialog



Available Printers: \\KRUSENTS\HP LaserJet 2100 Series PCL

Size: A4

Source: [PaperSource Tray 1 Kind=Upper]

● Portrait

○ Landscape

Left: 0 Right: 850

Top: 0 Bottom: 1100

Bounds (Rectangle): {X=0,Y=0,Width=850,Height=1100}

□ Color Printing

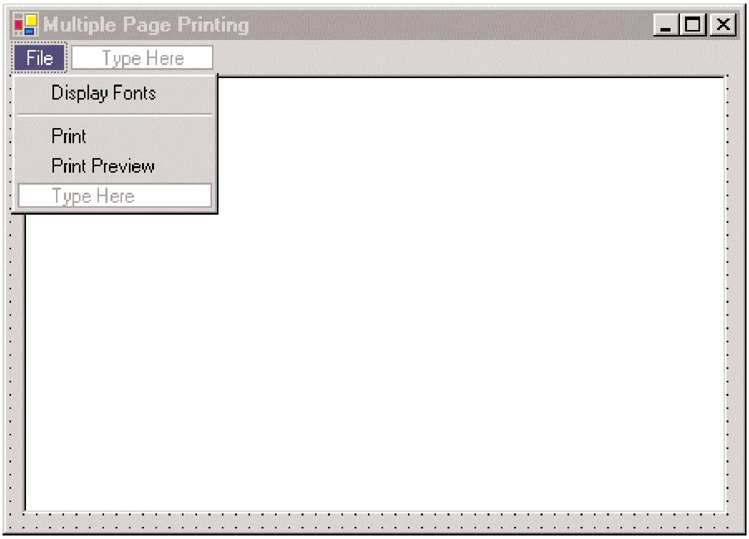
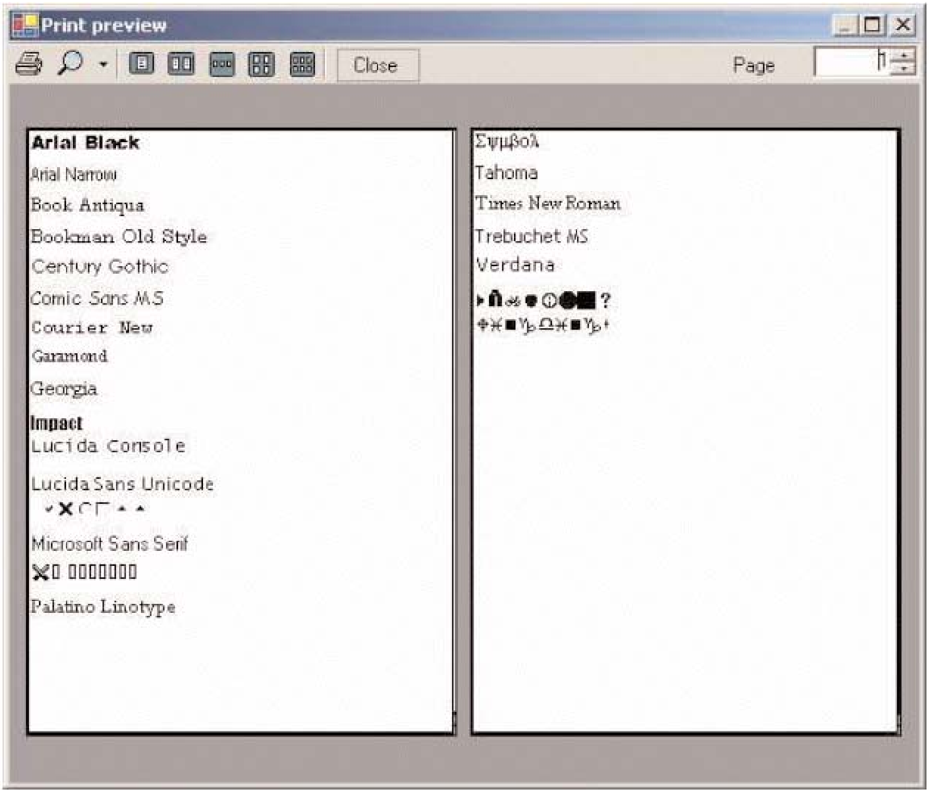
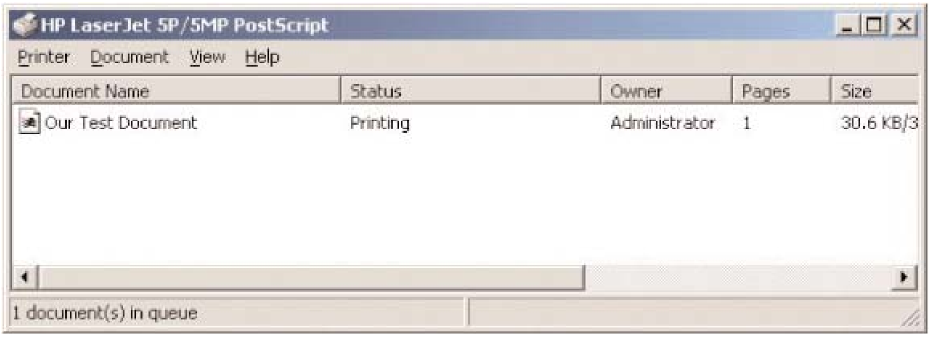


FIGURE 11.24: A form for printing multiple pages



Arial Black
Arial Narrow
Book Antiqua
Bookman Old Style
Century Gothic
Comic Sans MS
Courier New
Garamond
Georgia
Impact
Lucida Console
Lucida Sans Unicode
Microsoft Sans Serif
Palatino Linotype
Σψμβολ
Tahoma
Times New Roman
Trebuchet MS
Verdana

FIGURE 11.25: Print preview of multiple pages



Document Name	Status	Owner	Pages	Size
Our Test Document	Printing	Administrator	1	30.6 KB/3

1 document(s) in queue

FIGURE 11.26: Setting a document name

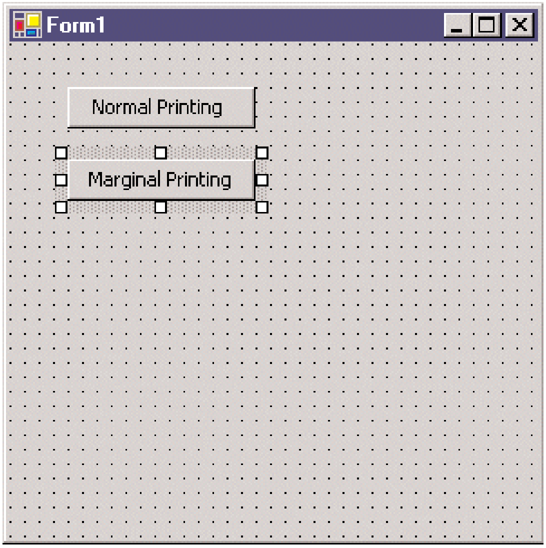


FIGURE 11.27: Marginal-printing test application

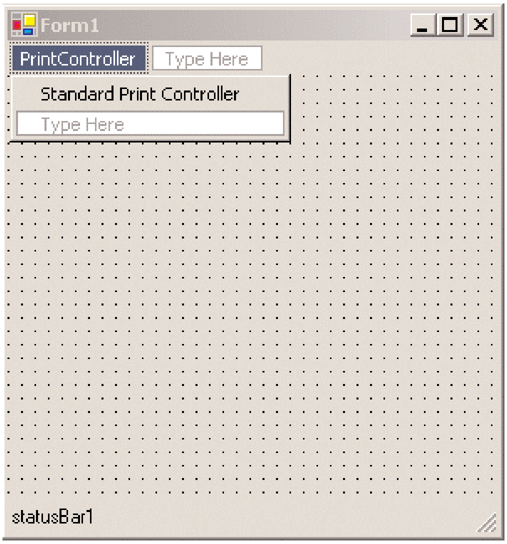
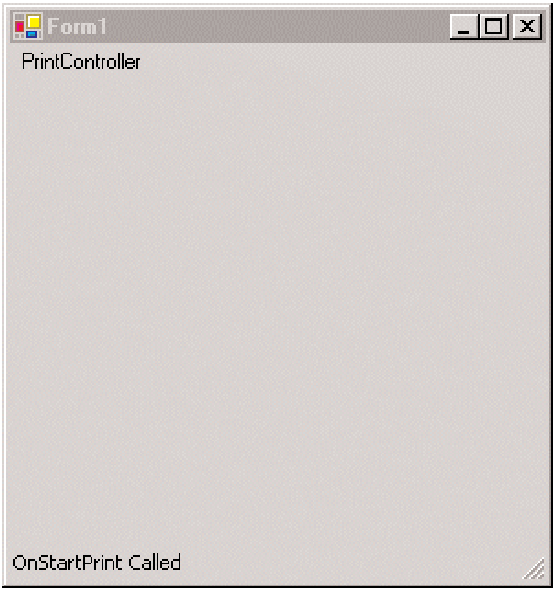
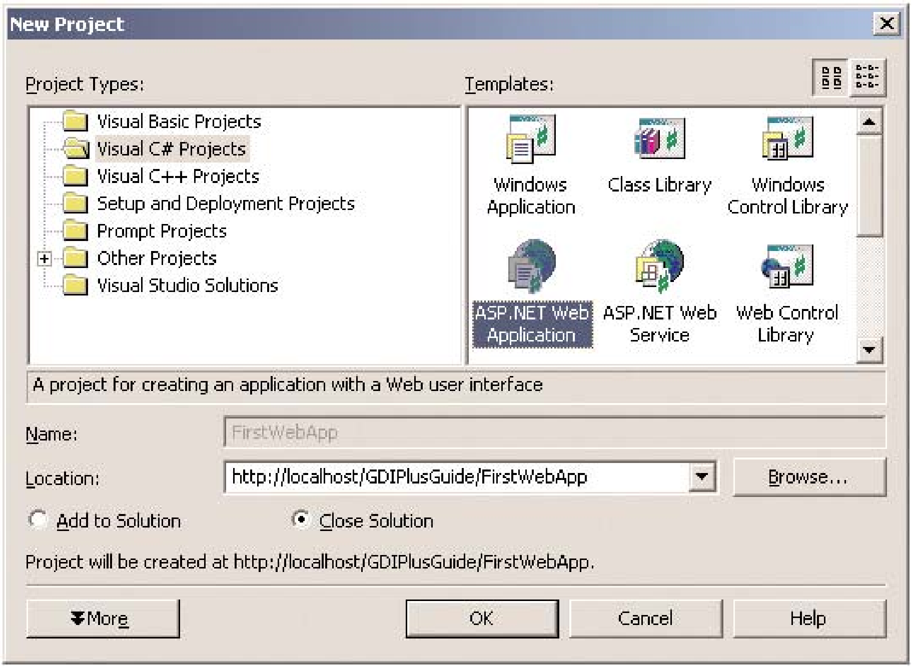


FIGURE 11.29: Print controller test form



OnStartPrint Called

FIGURE 11.30: Print controller output



New Project

Project Types:

- Visual Basic Projects
- Visual C# Projects
- Visual C++ Projects
- Setup and Deployment Projects
- Prompt Projects
- Other Projects
- Visual Studio Solutions

Templates:

A project for creating an application with a Web user interface

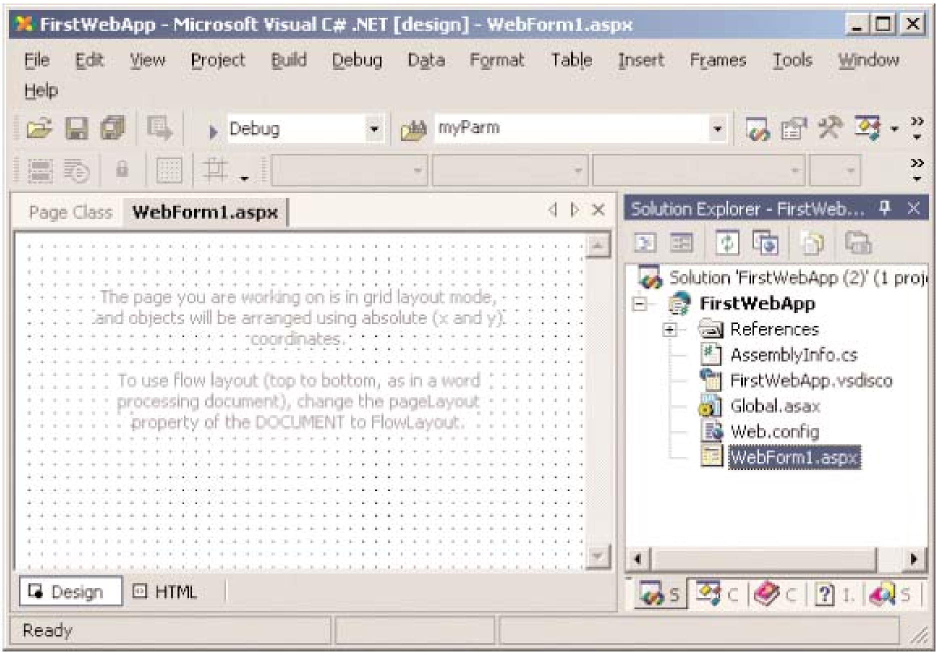
Name: FirstWebApp

Location: http://localhost/GDIPlusGuide/FirstWebApp

○ Add to Solution ● Close Solution

Project will be created at http://localhost/GDIPlusGuide/FirstWebApp.

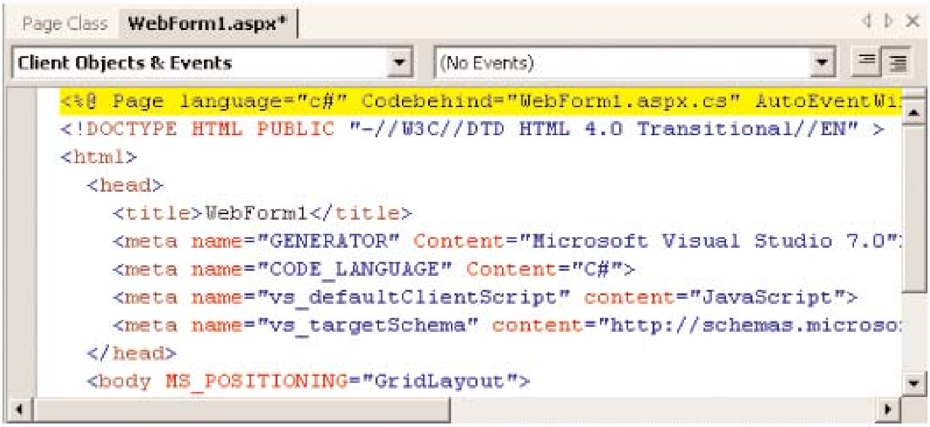
FIGURE 12.3: The FirstWebApp project



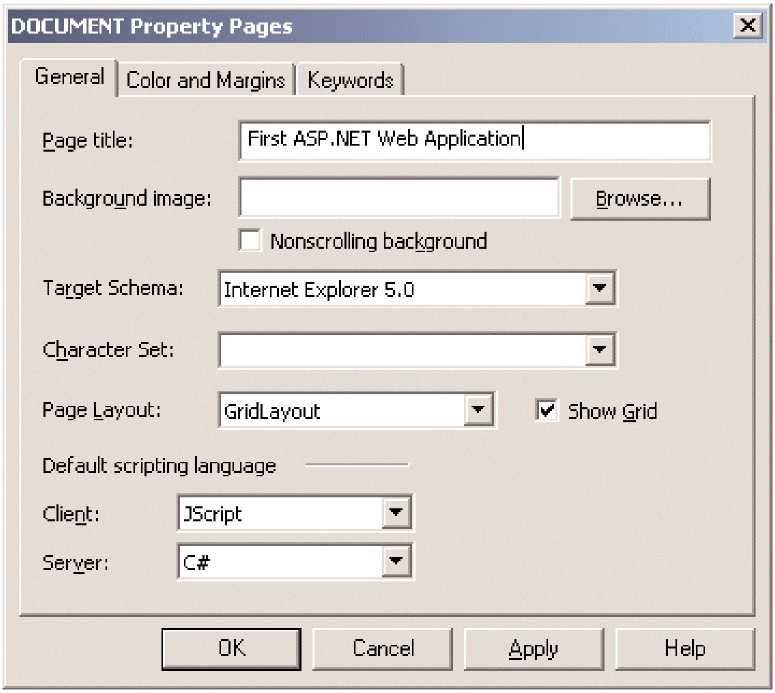
FirstWebApp - Microsoft Visual C# .NET [design] - WebForm1.aspx

The page you are working on is in grid layout mode, and objects will be arranged using absolute (x and y) coordinates.

To use flow layout (top to bottom, as in a word processing document), change the pageLayout property of the DOCUMENT to FlowLayout.



```
<%@ Page language="c#" Codebehind="WebForm1.aspx.cs" AutoEventWi
<!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.0 Transitional//EN" >
<html>
  <head>
    <title>WebForm1</title>
    <meta name="GENERATOR" Content="Microsoft Visual Studio 7.0"
    <meta name="CODE_LANGUAGE" Content="C#">
    <meta name="vs_defaultClientScript" content="JavaScript">
    <meta name="vs_targetSchema" content="http://schemas.microso
  </head>
  <body MS_POSITIONING="GridLayout">
```



Page title: First ASP.NET Web Application

Background image:

□ Nonscrolling background

Target Schema: Internet Explorer 5.0

Character Set:

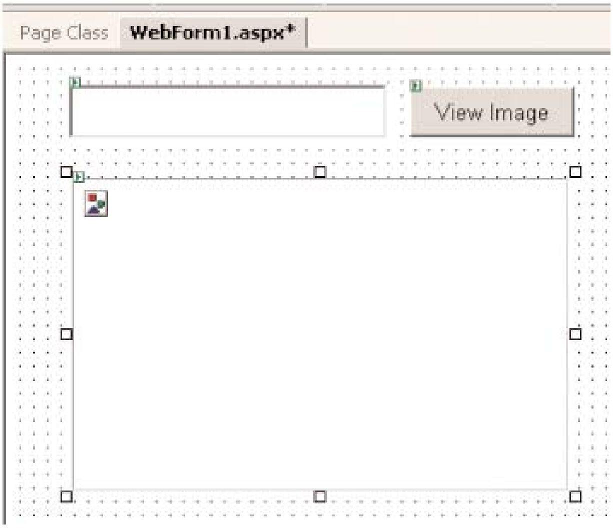
Page Layout: GridLayout ☑ Show Grid

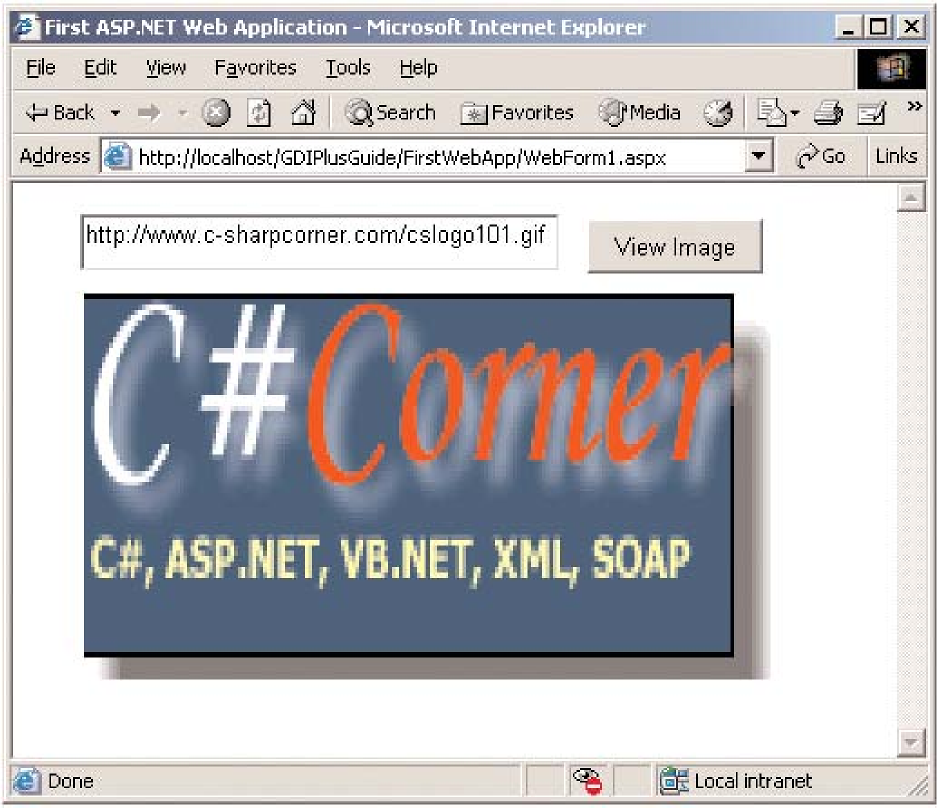
Default scripting language

Client: JScript

Server: C#

FIGURE 12.6: An ASP.NET document's page properties




First ASP.NET Web Application - Microsoft Internet Explorer

http://localhost/GDIPlusGuide/FirstWebApp/WebForm1.aspx

http://www.c-sharpcorner.com/cslogo101.gif

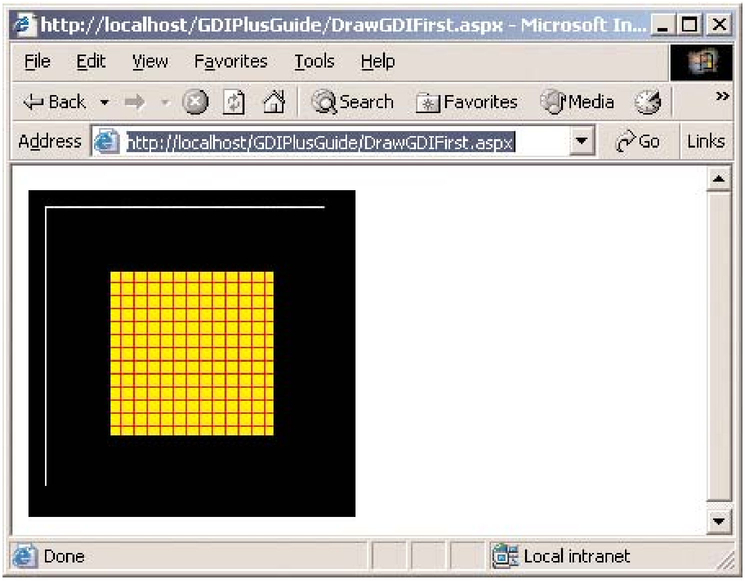

http://localhost/GDIPlusGuide/DrawGDIFirst.aspx - Microsoft In...
File Edit View Favorites Tools Help
Back Search Favorites Media
Address http://localhost/GDIPlusGuide/DrawGDIFirst.aspx Go Links
Done
Local intranet

FIGURE 12.9: Drawing simple graphics objects on the Web

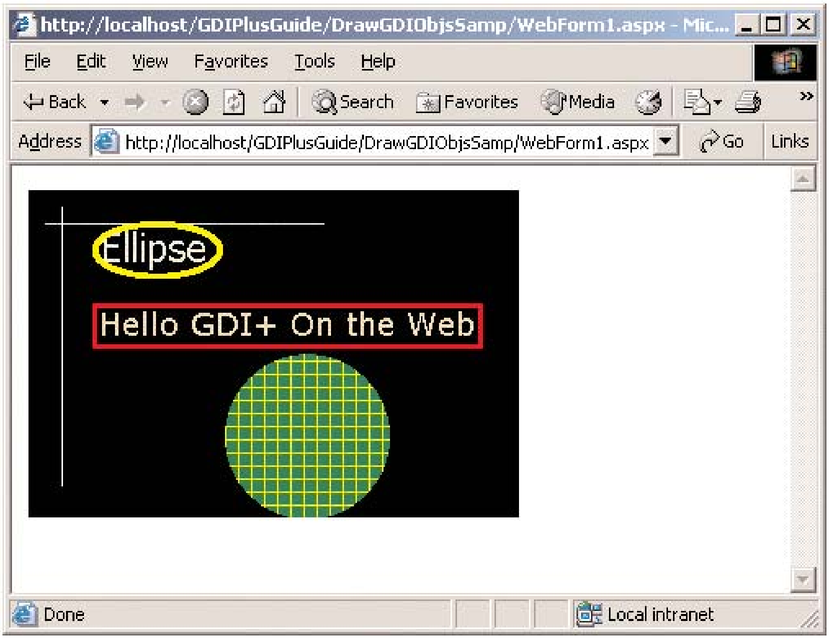
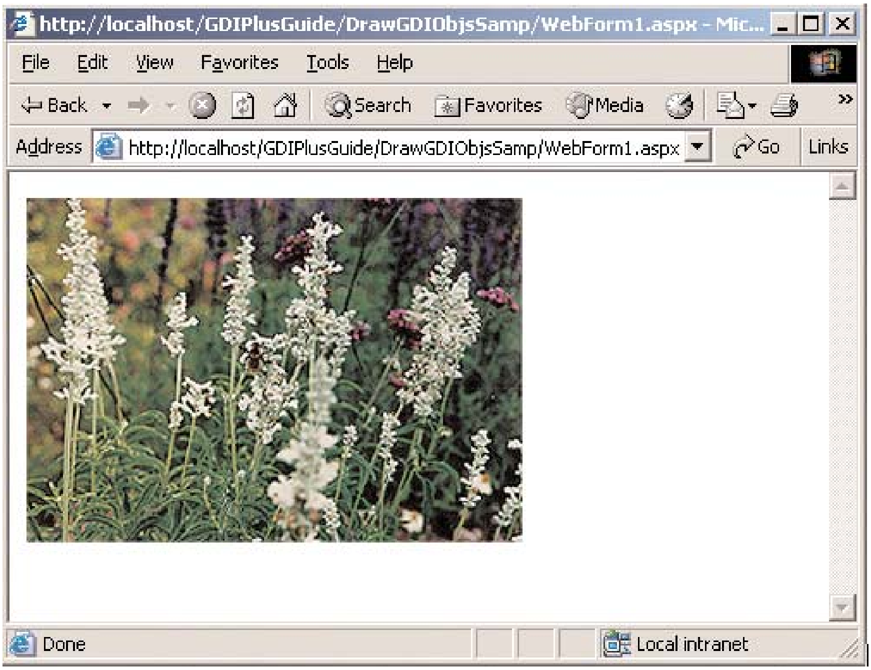
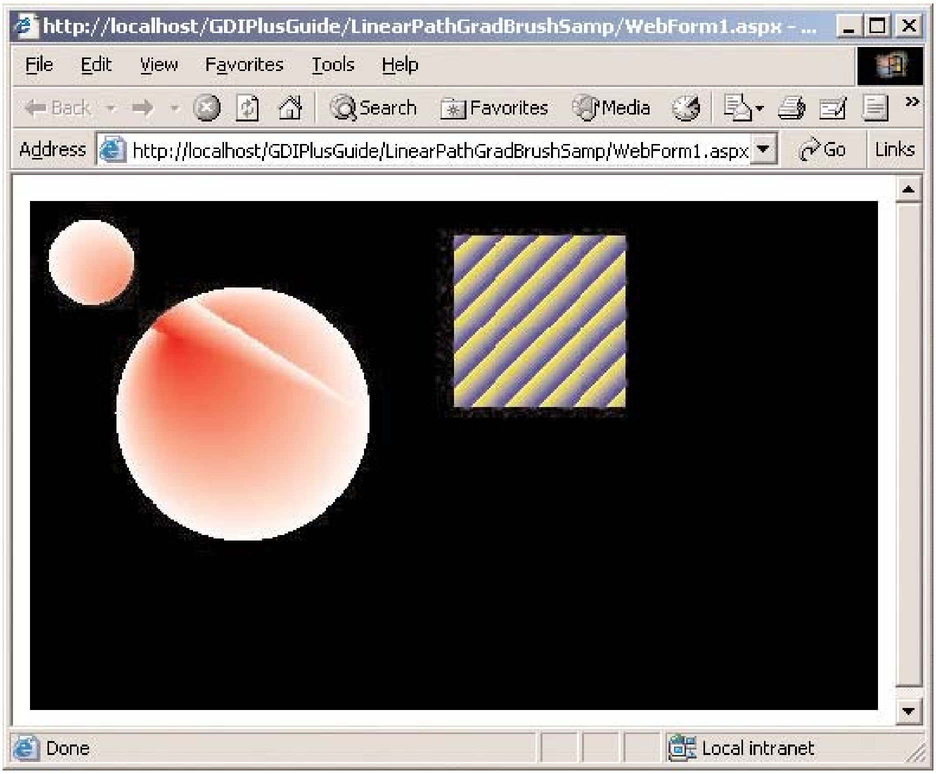

http://localhost/GDIPlusGuide/DrawGDIObjsSamp/WebForm1.aspx - Mic...
File Edit View Favorites Tools Help
Back Search Favorites Media
Address http://localhost/GDIPlusGuide/DrawGDIObjsSamp/WebForm1.aspx Go Links
Ellipse
Hello GDI+ On the Web
Done
Local intranet

FIGURE 12.10: Drawing various graphics objects



http://localhost/GDIPlusGuide/DrawGDIObjsSamp/WebForm1.aspx - Mic...
File
Edit
View
Favorites
Tools
Help
Back
Search
Favorites
Media
Address
http://localhost/GDIPlusGuide/DrawGDIObjsSamp/WebForm1.aspx
Go
Links
Done
Local intranet

FIGURE 12.11: Drawing an image


http://localhost/GDIPlusGuide/LinearPathGradBrushSamp/WebForm1.aspx - ...
File
Edit
View
Favorites
Tools
Help
Back
Search
Favorites
Media
Address
http://localhost/GDIPlusGuide/LinearPathGradBrushSamp/WebForm1.aspx
Go
Links
Done
Local intranet

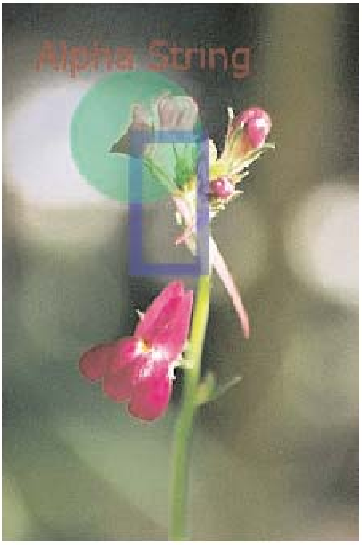
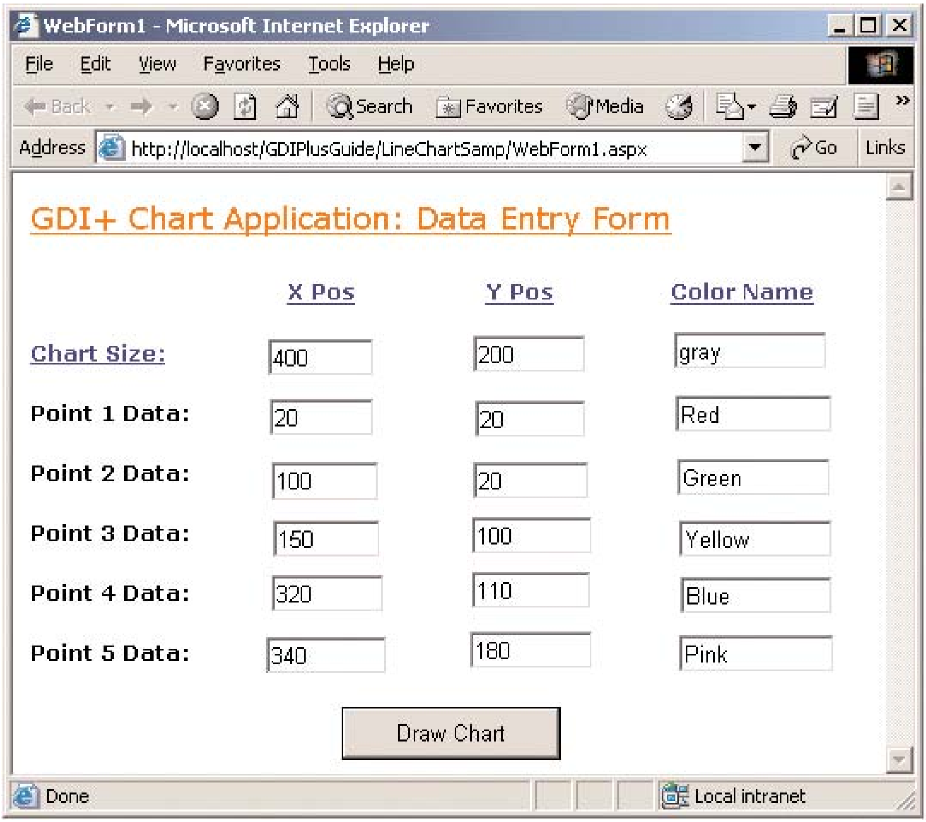


FIGURE 12.13: Drawing semitransparent objects


WebForm1 - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Back Search Favorites Media
Address http://localhost/GDIPlusGuide/LineChartSamp/WebForm1.aspx
Go Links
Draw Chart
Done
Local intranet

GDI+ Chart Application: Data Entry Form

	X Pos	Y Pos	Color Name
Chart Size:	400	200	gray
Point 1 Data:	20	20	Red
Point 2 Data:	100	20	Green
Point 3 Data:	150	100	Yellow
Point 4 Data:	320	110	Blue
Point 5 Data:	340	180	Pink

FIGURE 12.14: Entering points on a chart

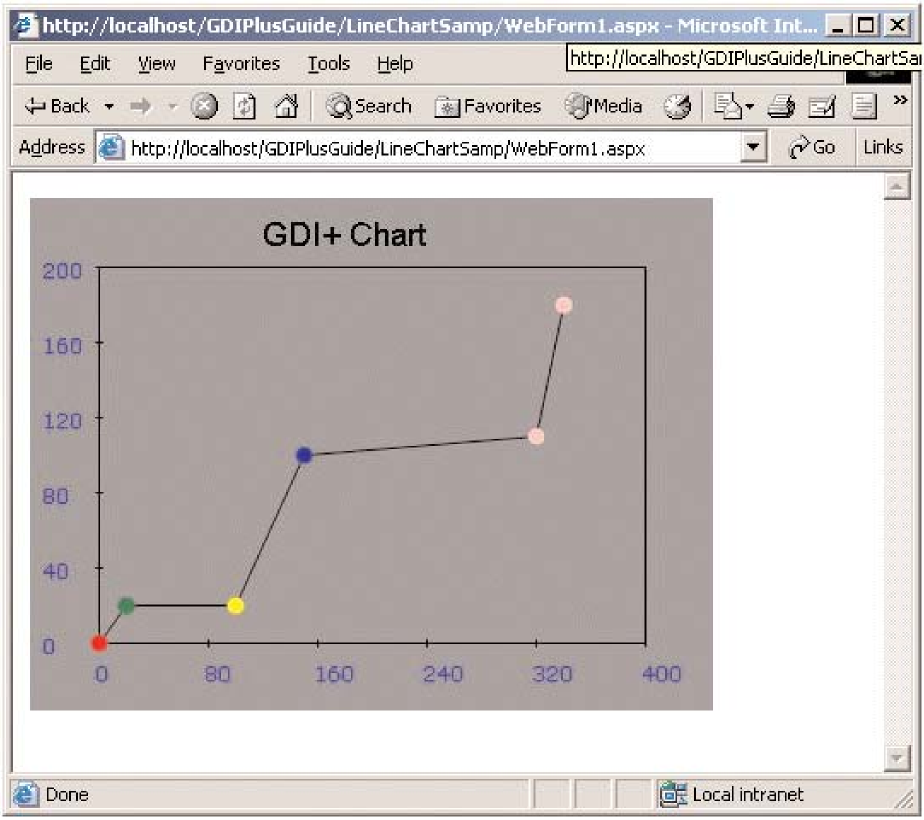
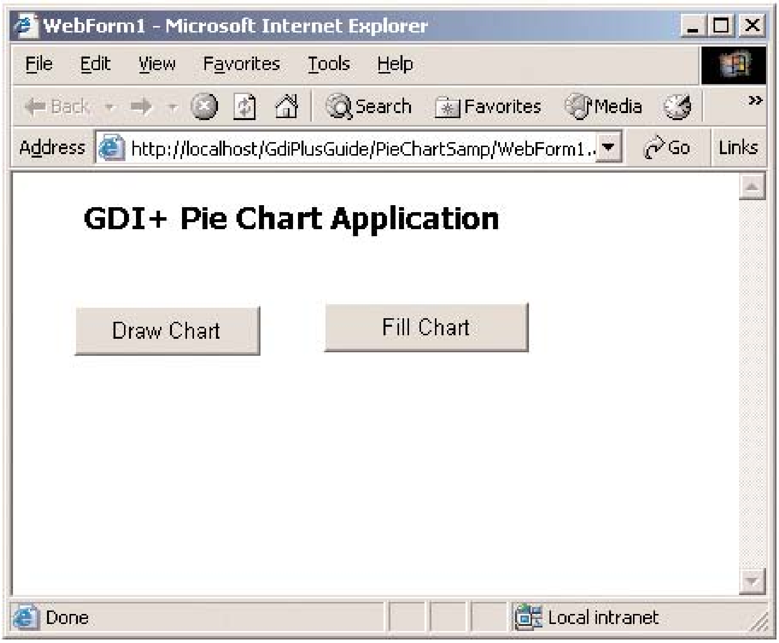

http://localhost/GDIPlusGuide/LineChartSamp/WebForm1.aspx - Microsoft Int...
File
Edit
View
Favorites
Tools
Help
Back
Search
Favorites
Media
Address
http://localhost/GDIPlusGuide/LineChartSamp/WebForm1.aspx
Go
Links
GDI+ Chart
200
160
120
80
40
0
0
80
160
240
320
400
Done
Local intranet

FIGURE 12.15: A line chart in ASP.NET


WebForm1 - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Back Search Favorites Media
Address
http://localhost/GdiPlusGuide/PieChartSamp/WebForm1..
Go
Links
Draw Chart
Fill Chart
Done
Local intranet

GDI+ Pie Chart Application

FIGURE 12.16: A pie chart–drawing application in ASP.NET

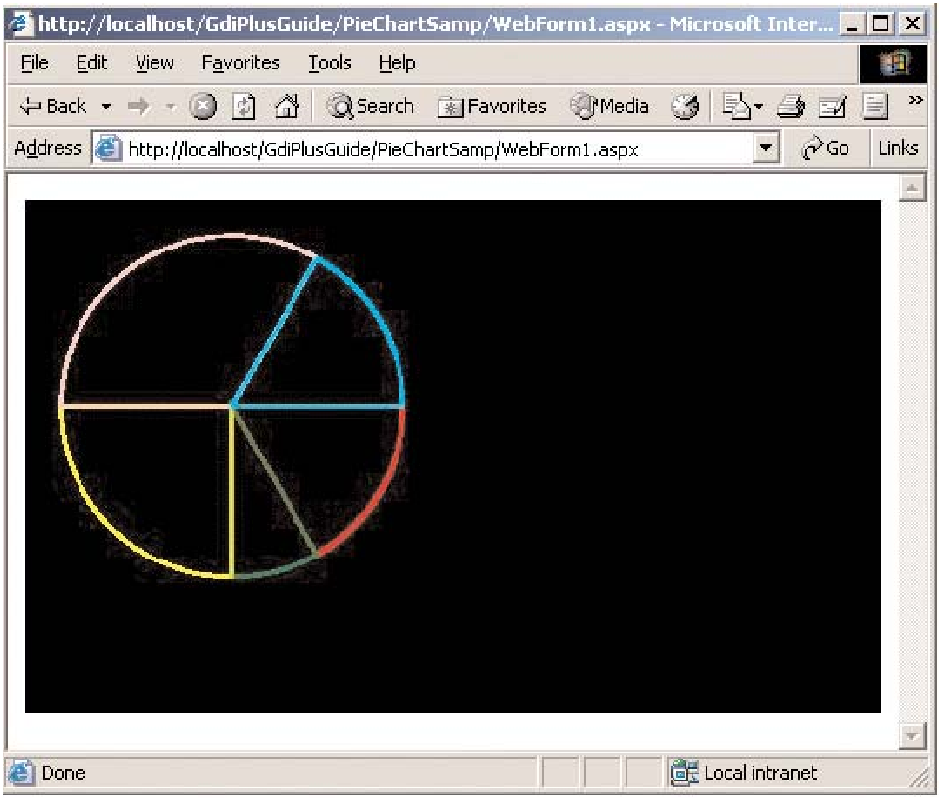

http://localhost/GdiPlusGuide/PieChartSamp/WebForm1.aspx - Microsoft Inter...
File
Edit
View
Favorites
Tools
Help
Back
Search
Favorites
Media
Address
http://localhost/GdiPlusGuide/PieChartSamp/WebForm1.aspx
Go
Links
Done
Local intranet

FIGURE 12.17: The Draw Chart button click in action

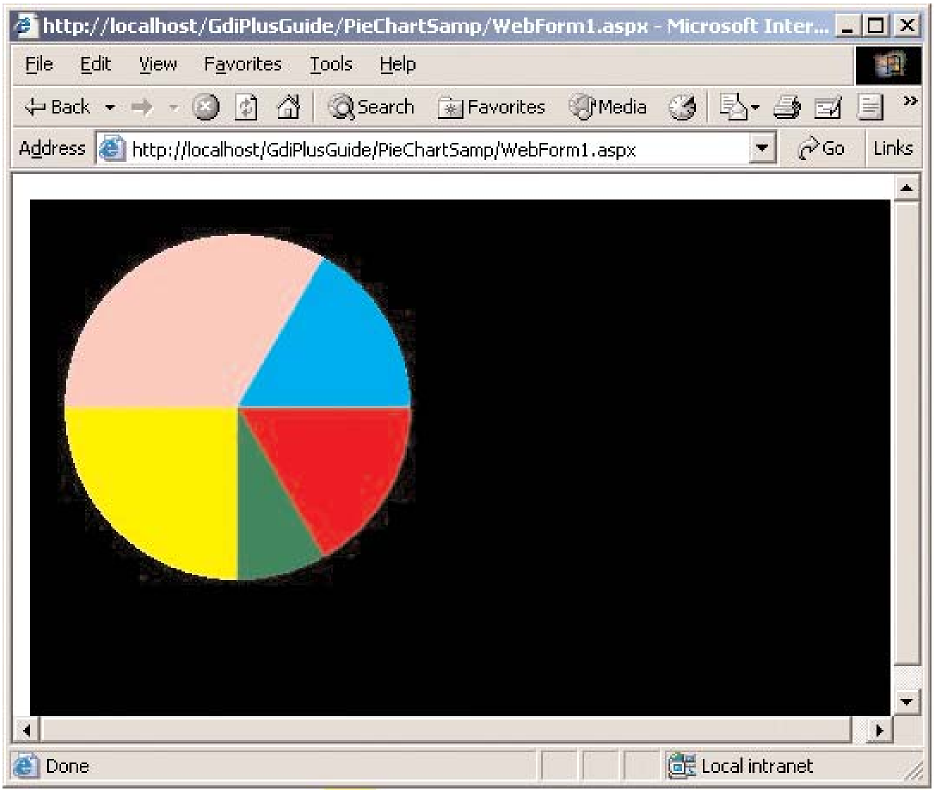

http://localhost/GdiPlusGuide/PieChartSamp/WebForm1.aspx - Microsoft Inter...
File Edit View Favorites Tools Help
Back Search Favorites Media
Address http://localhost/GdiPlusGuide/PieChartSamp/WebForm1.aspx
Go Links
Done
Local intranet

FIGURE 12.18: The Fill Chart button click in action

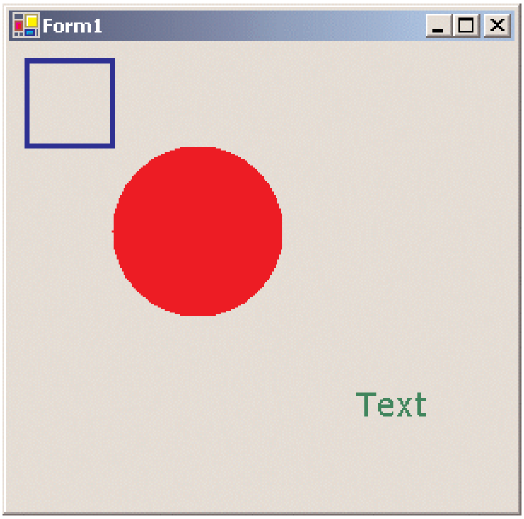


FIGURE 13.2: Drawing on a form

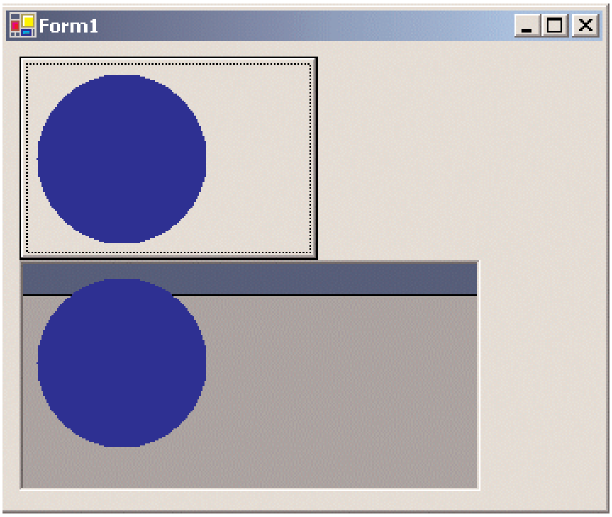


FIGURE 13.3: Drawing on Windows controls

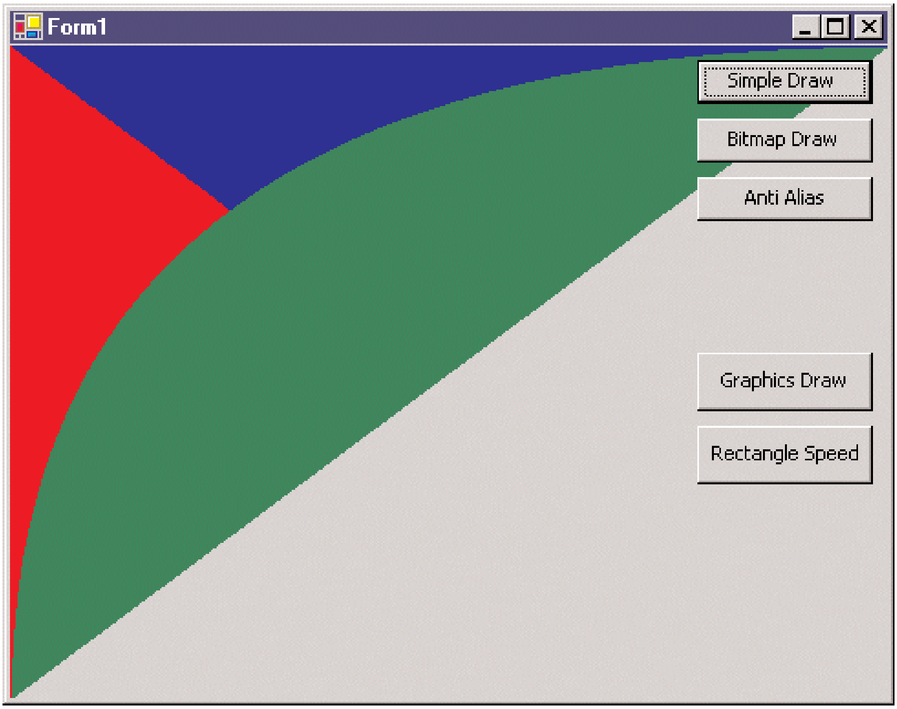


FIGURE 13.4: Drawing lines in a loop

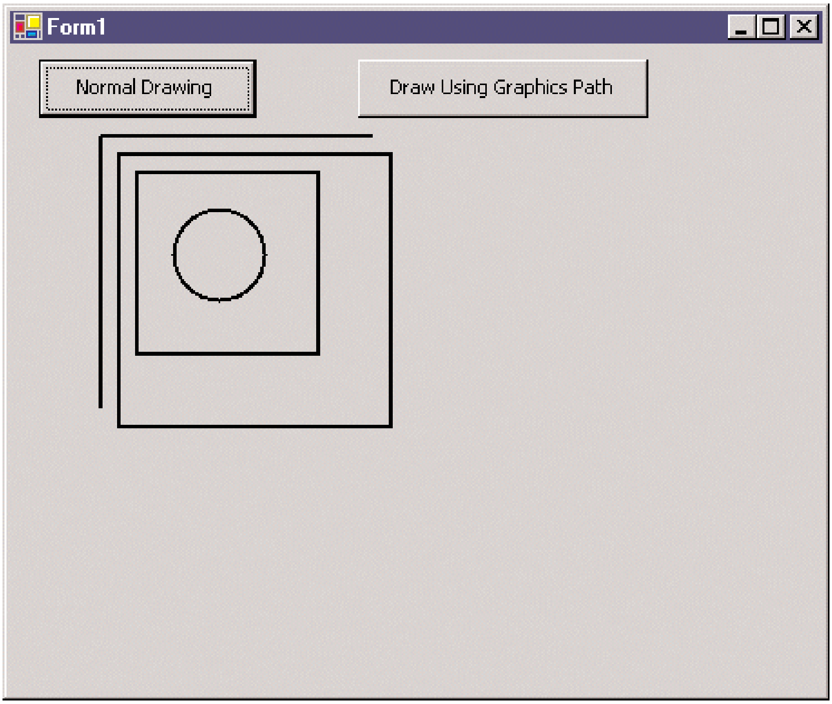
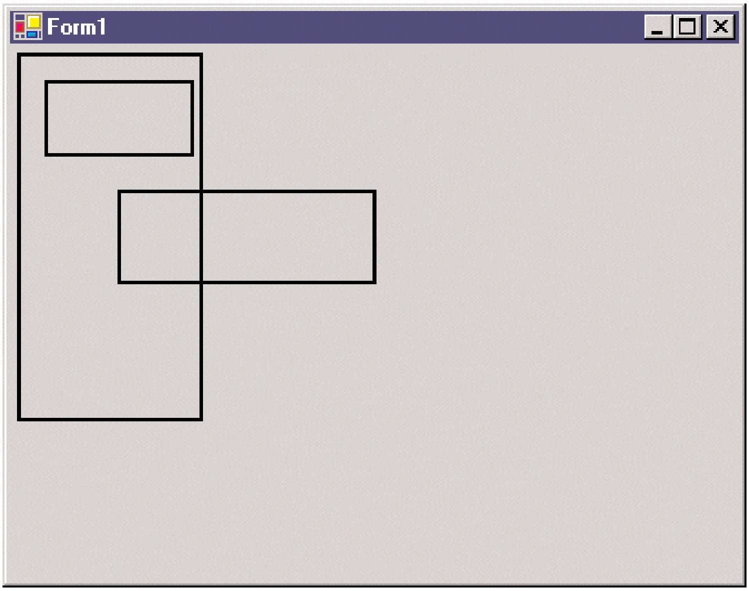


FIGURE 13.5: The same result from two different drawing methods



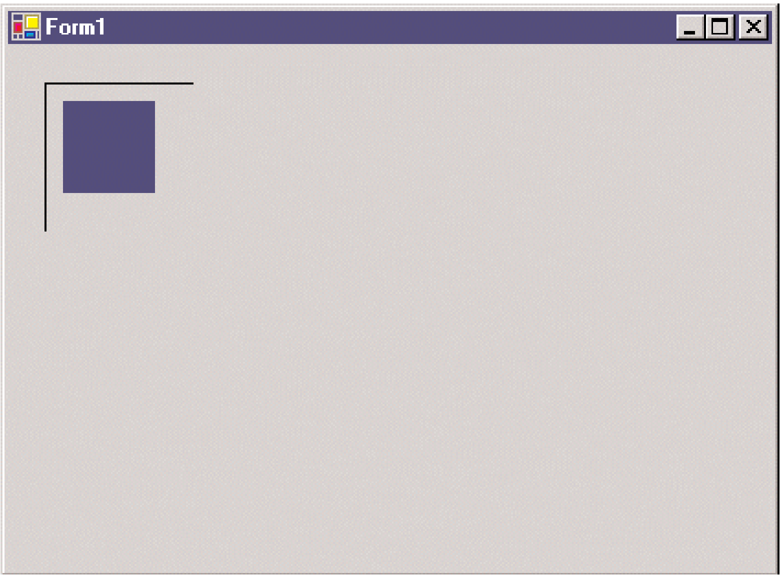


FIGURE 13.7: Using system pens and brushes

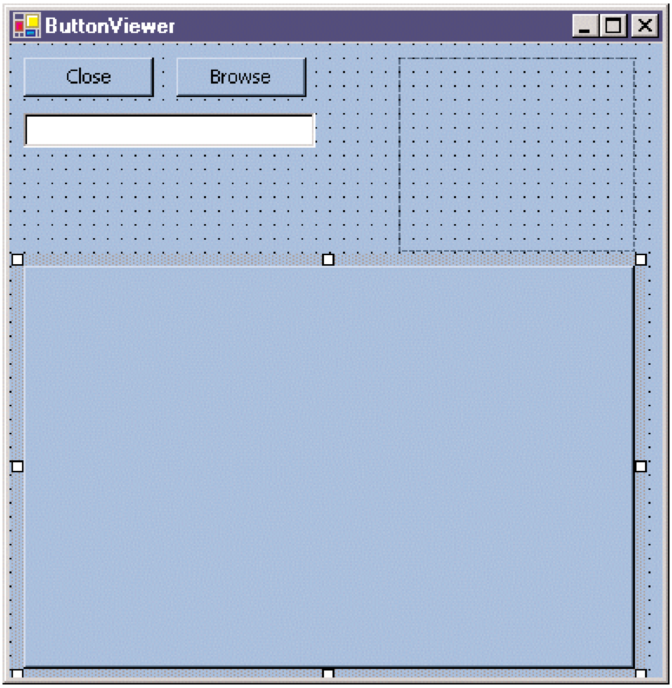


FIGURE 15.1: An interactive GUI application

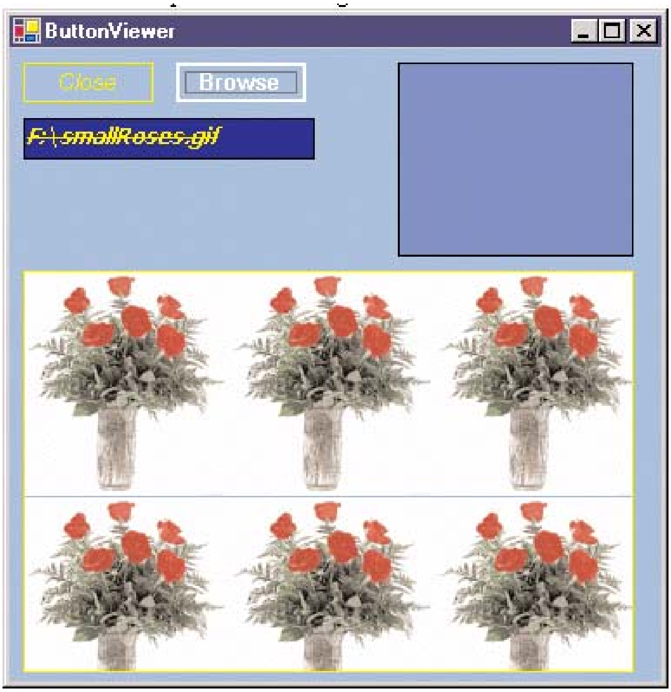


FIGURE 15.2: Designing transparent controls

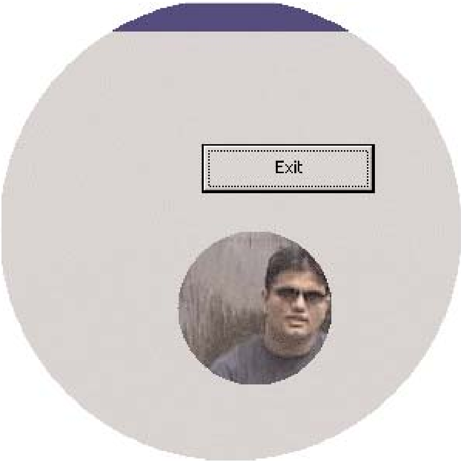


FIGURE 15.3: Drawing a circular form and Windows controls

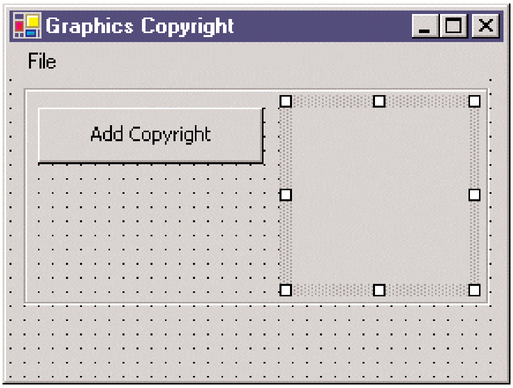


FIGURE 15.4: A graphics copyright application

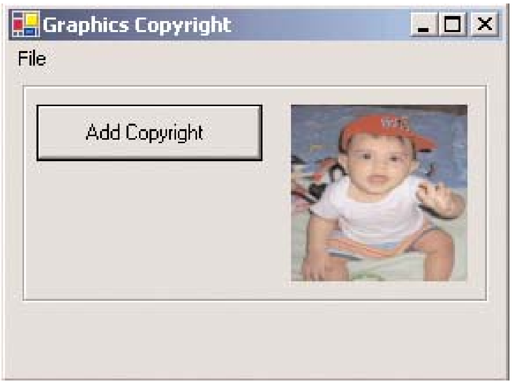


FIGURE 15.5: Thumbnail view of an image

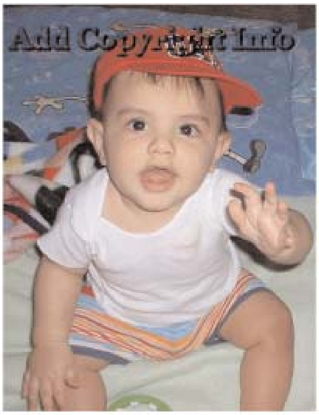
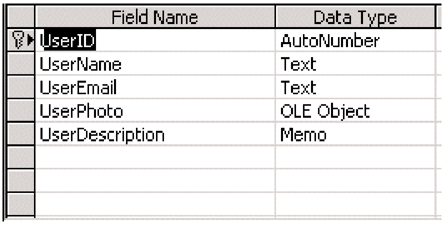


FIGURE 15.6: An image after copyright has been added to it



Field Name	Data Type
UserID	AutoNumber
UserName	Text
UserEmail	Text
UserPhoto	OLE Object
UserDescription	Memo

FIGURE 15.7: Users table schema

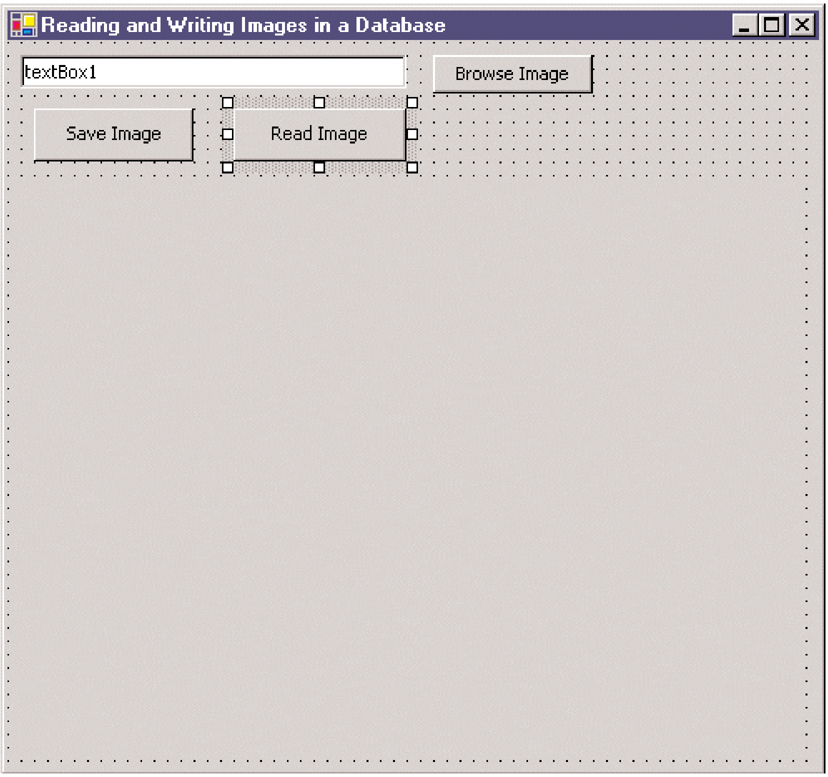
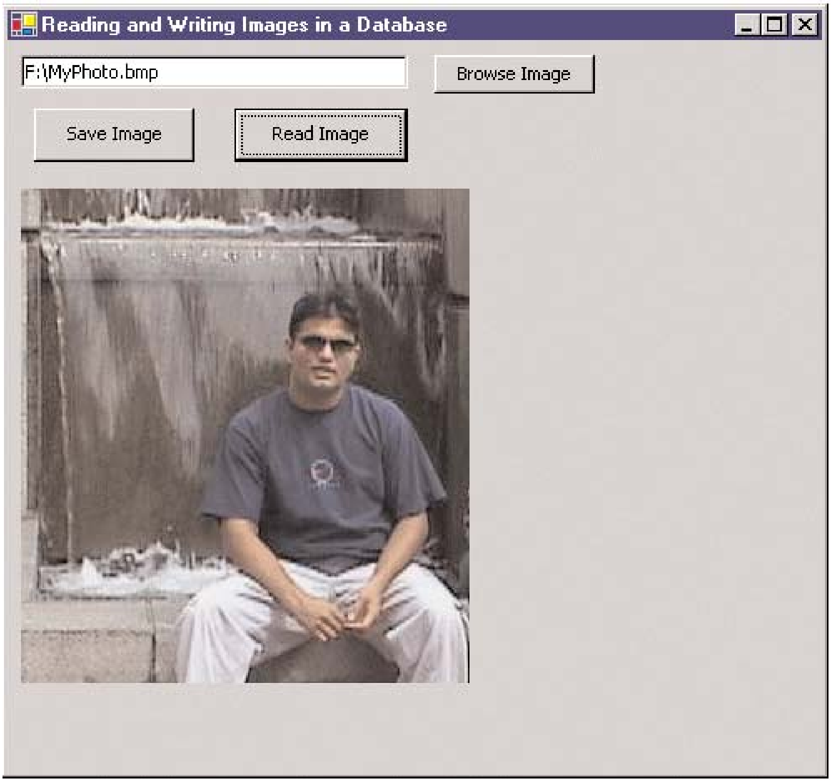
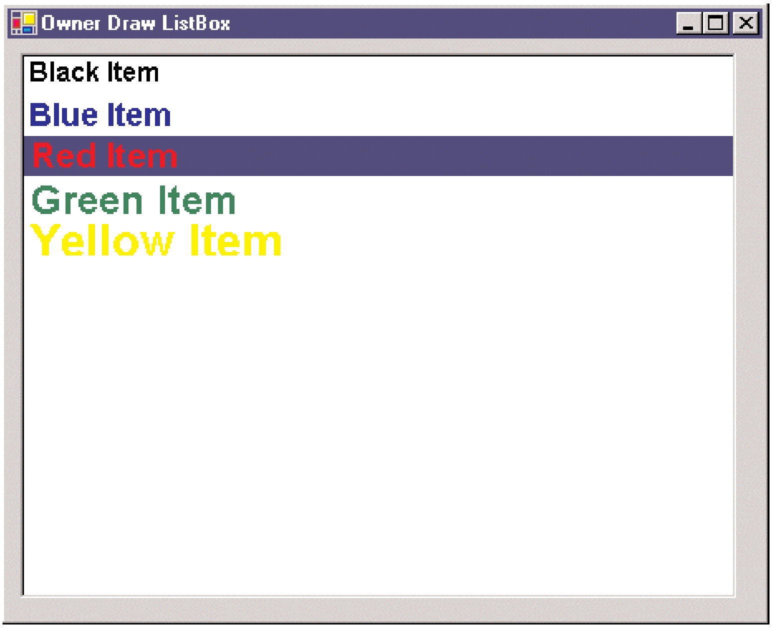


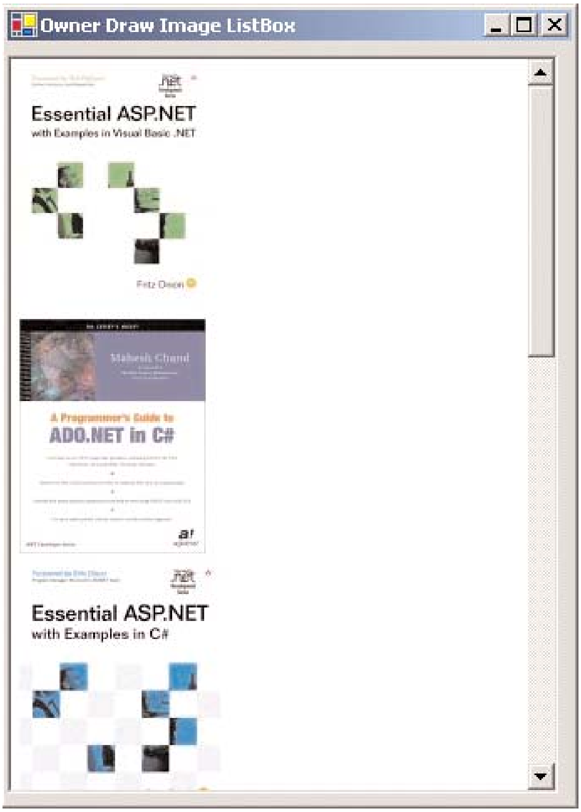
FIGURE 15.8: Reading and writing images in a database form

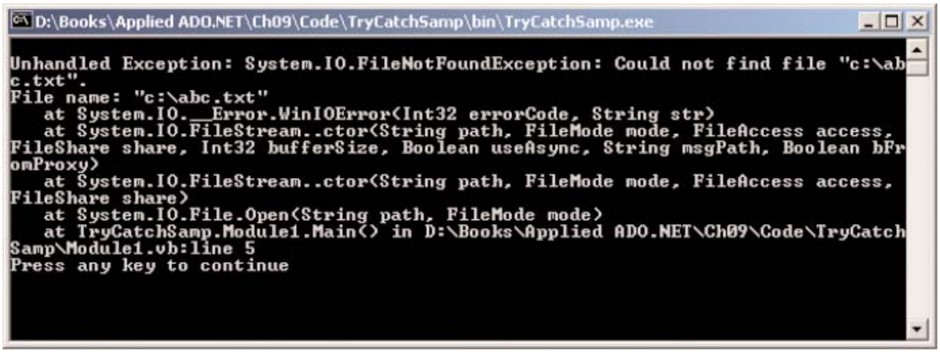


F:\MyPhoto.bmp

FIGURE 15.9: Displaying a bitmap after reading data from a database

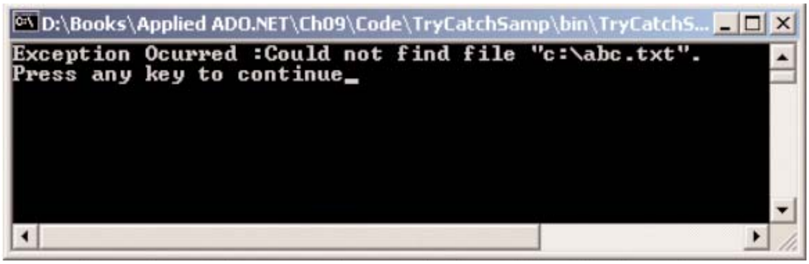

Owner Draw ListBox
Black Item
Blue Item
Red Item
Green Item
Yellow Item




D:\Books\Applied ADO.NET\Ch09\Code\TryCatchSamp\bin\TryCatchSamp.exe

```
Unhandled Exception: System.IO.FileNotFoundException: Could not find file "c:\ab
c.txt".
File name: "c:\abc.txt"
   at System.IO.__Error.WinIOError(Int32 errorCode, String str)
   at System.IO.FileStream..ctor(String path, FileMode mode, FileAccess access,
FileShare share, Int32 bufferSize, Boolean useAsync, String msgPath, Boolean bFr
omProxy)
   at System.IO.FileStream..ctor(String path, FileMode mode, FileAccess access,
FileShare share)
   at System.IO.File.Open(String path, FileMode mode)
   at TryCatchSamp.Module1.Main() in D:\Books\Applied ADO.NET\Ch09\Code\TryCatch
Samp\Module1.vb:line 5
Press any key to continue
```

FIGURE A.1: An error generated from Listing A.1



D:\Books\Applied ADO.NET\Ch09\Code\TryCatchSamp\bin\TryCatchS...

```
Exception Ocurred :Could not find file "c:\abc.txt".
Press any key to continue_
```

FIGURE A.2: An exception-handled error message