

Namespace Medium_Scale_Software_Engineering_Project

Classes

[AppCanvas](#)

Represents a drawable canvas that supports basic drawing operations such as lines, shapes, and text.

[AppCommandFactory](#)

Implement CommandFactory

[Form1](#)

Represents the main application form for the BOOSE (Basic Object Orientated Software Engineering) graphical programming environment. This form provides a comprehensive interface for writing, executing, and debugging BOOSE programs with real-time visual feedback on a drawing canvas.

Class AppCanvas

Namespace: [Medium Scale Software Engineering Project](#)

Assembly: Medium Scale Software Engineering Project.dll

Represents a drawable canvas that supports basic drawing operations such as lines, shapes, and text.

```
public class AppCanvas : ICanvas
```

Inheritance

[object](#) ← AppCanvas

Implements

ICanvas

Inherited Members

[object.Equals\(object\)](#), [object.Equals\(object, object\)](#), [object.GetHashCode\(\)](#), [object.GetType\(\)](#), [object.MemberwiseClone\(\)](#), [object.ReferenceEquals\(object, object\)](#), [object.ToString\(\)](#)

Constructors

AppCanvas(int, int)

AppCanvas constructor initializes the canvas with specified width and height.

```
public AppCanvas(int width, int height)
```

Parameters

width [int](#)

height [int](#)

Properties

PenColour

Property to get or set the pen colour used for drawing on the canvas.

```
public object PenColour { get; set; }
```

Property Value

[object](#)

Xpos

Gets or sets the current X position of the pen on the canvas.

```
public int Xpos { get; set; }
```

Property Value

[int](#)

Ypos

Gets or sets the current Y position of the pen on the canvas.

```
public int Ypos { get; set; }
```

Property Value

[int](#)

Methods

Circle(int, bool)

Creates a circle at the current pen position with the specified radius.

```
public void Circle(int radius, bool filled)
```

Parameters

`radius` [int](#)

`filled` [bool](#)

Clear()

Clears the canvas by filling it with black color.

```
public void Clear()
```

DrawCursorDot()

Draws a white dot with black outline at the current pen position. This should be called separately to draw the cursor dot on top of everything.

```
public void DrawCursorDot()
```

DrawTo(int, int)

Draws a line from the current pen position to the specified (x, y) coordinates.

```
public void DrawTo(int x, int y)
```

Parameters

`x` [int](#)

`y` [int](#)

MoveTo(int, int)

Moves the pen to the specified (x, y) coordinates without drawing.

```
public void MoveTo(int x, int y)
```

Parameters

x [int](#)

y [int](#)

Rect(int, int, bool)

Renders a rectangle at the current pen position with the specified width and height.

```
public void Rect(int width, int height, bool filled)
```

Parameters

width [int](#)

height [int](#)

filled [bool](#)

Reset()

Resets the canvas to its initial state.

```
public void Reset()
```

Set(int, int)

Sets the size of the canvas to the specified width and height.

```
public void Set(int width, int height)
```

Parameters

width [int](#)

height [int](#)

SetColour(int, int, int)

Sets the current drawing colour using RGB values.

```
public void SetColour(int red, int green, int blue)
```

Parameters

red [int](#)

green [int](#)

blue [int](#)

Tri(int, int)

Draws a triangle at the current pen position with the specified width and height.

```
public void Tri(int width, int height)
```

Parameters

width [int](#)

height [int](#)

WriteText(string)

Writes the specified text at the current pen position. This is called by the "write" command in BOOSE.

```
public void WriteText(string text)
```

Parameters

text [string](#)

getBitmap()

Gets the underlying bitmap of the canvas for rendering.

```
public object getBitmap()
```

Returns

[object](#)

Class AppCommandFactory


Namespace: [Medium Scale Software Engineering Project](#)

Assembly: Medium Scale Software Engineering Project.dll

Implement CommandFactory

```
public class AppCommandFactory : CommandFactory, ICommandFactory
```








Inheritance

[object](#)  ← CommandFactory ← AppCommandFactory

Implements

ICommandFactory

Inherited Members

[object.Equals\(object\)](#)  , [object.Equals\(object, object\)](#)  , [object.GetHashCode\(\)](#)  , [object.GetType\(\)](#)  ,
[object.MemberwiseClone\(\)](#)  , [object.ReferenceEquals\(object, object\)](#)  , [object.ToString\(\)](#) 

Methods

MakeCommand(string)

Make a command, showing message boxes on errors

```
public override ICommand MakeCommand(string name)
```

Parameters

name [string](#) 

Returns

ICommand

Class Form1

Namespace: [Medium Scale Software Engineering Project](#)

Assembly: Medium Scale Software Engineering Project.dll

Represents the main application form for the BOOSE (Basic Object Orientated Software Engineering) graphical programming environment. This form provides a comprehensive interface for writing, executing, and debugging BOOSE programs with real-time visual feedback on a drawing canvas.

```
public class Form1 : Form, IDropTarget, ISynchronizeInvoke, IWin32Window,
    IBindableComponent, IComponent, IDisposable, IContainerControl
```

Inheritance

[object](#) ← [MarshalByRefObject](#) ← [Component](#) ← [Control](#) ← [ScrollableControl](#) ← [ContainerControl](#) ← [Form](#) ← Form1

Implements

[IDropTarget](#), [ISynchronizeInvoke](#), [IWin32Window](#), [IBindableComponent](#), [IComponent](#), [IDisposable](#), [IContainerControl](#)

Inherited Members

[Form.SetVisibleCore\(bool\)](#), [Form.Activate\(\)](#), [Form.ActivateMdiChild\(Form\)](#), [Form.AddOwnedForm\(Form\)](#), [Form.AdjustFormScrollbars\(bool\)](#), [Form.Close\(\)](#), [Form.CreateAccessibilityInstance\(\)](#), [Form.CreateControlsInstance\(\)](#), [Form.CreateHandle\(\)](#), [Form.DefWndProc\(ref Message\)](#), [Form.ProcessMnemonic\(char\)](#), [Form.CenterToParent\(\)](#), [Form.CenterToScreen\(\)](#), [Form.LayoutMdi\(MdiLayout\)](#), [Form.OnActivated\(EventArgs\)](#), [Form.OnBackgroundImageChanged\(EventArgs\)](#), [Form.OnBackgroundImageLayoutChanged\(EventArgs\)](#), [Form.OnClosing\(CancelEventArgs\)](#), [Form.OnClosed\(EventArgs\)](#), [Form.OnFormClosing\(FormClosingEventArgs\)](#), [Form.OnFormClosed\(FormClosedEventArgs\)](#), [Form.OnCreateControl\(\)](#), [Form.OnDeactivate\(EventArgs\)](#), [Form.OnEnabledChanged\(EventArgs\)](#), [Form.OnEnter\(EventArgs\)](#), [Form.OnFontChanged\(EventArgs\)](#), [Form.OnGotFocus\(EventArgs\)](#), [Form.OnHandleCreated\(EventArgs\)](#), [Form.OnHandleDestroyed\(EventArgs\)](#), [Form.OnHelpButtonClicked\(CancelEventArgs\)](#), [Form.OnLayout\(LayoutEventArgs\)](#), [Form.OnLoad\(EventArgs\)](#), [Form.OnMaximizedBoundsChanged\(EventArgs\)](#), [Form.OnMaximumSizeChanged\(EventArgs\)](#), [Form.OnMinimumSizeChanged\(EventArgs\)](#), [Form.OnInputLanguageChanged\(InputLanguageChangedEventArgs\)](#), [Form.OnInputLanguageChanging\(InputLanguageChangingEventArgs\)](#), [Form.OnVisibleChanged\(EventArgs\)](#), [Form.OnMdiChildActivate\(EventArgs\)](#), [Form.OnMenuStart\(EventArgs\)](#), [Form.OnMenuComplete\(EventArgs\)](#),

[Form.OnPaint\(PaintEventArgs\)](#), [Form.OnResize\(EventArgs\)](#),
[Form.OnDpiChanged\(DpiChangedEventArgs\)](#), [Form.OnGetDpiScaledSize\(int, int, ref Size\)](#),
[Form.OnRightToLeftLayoutChanged\(EventArgs\)](#), [Form.OnShown\(EventArgs\)](#),
[Form.OnTextChanged\(EventArgs\)](#), [Form.ProcessCmdKey\(ref Message, Keys\)](#),
[Form.ProcessDialogKey\(Keys\)](#), [Form.ProcessDialogChar\(char\)](#),
[Form.ProcessKeyPreview\(ref Message\)](#), [Form.ProcessTabKey\(bool\)](#),
[Form.RemoveOwnedForm\(Form\)](#), [Form.Select\(bool, bool\)](#), [Form.ScaleMinMaxSize\(float, float, bool\)](#),
[Form.GetScaledBounds\(Rectangle, SizeF, BoundsSpecified\)](#),
[Form.ScaleControl\(SizeF, BoundsSpecified\)](#), [Form.SetBoundsCore\(int, int, int, int, BoundsSpecified\)](#),
[Form.SetClientSizeCore\(int, int\)](#), [Form.SetDesktopBounds\(int, int, int, int\)](#),
[Form.SetDesktopLocation\(int, int\)](#), [Form.Show\(IWin32Window\)](#), [Form.ShowDialog\(\)](#),
[Form.ShowDialog\(IWin32Window\)](#), [Form.ToString\(\)](#), [Form.UpdateDefaultButton\(\)](#),
[Form.OnResizeBegin\(EventArgs\)](#), [Form.OnResizeEnd\(EventArgs\)](#),
[Form.OnStyleChanged\(EventArgs\)](#), [Form.ValidateChildren\(\)](#),
[Form.ValidateChildren\(ValidationConstraints\)](#), [Form.WndProc\(ref Message\)](#), [Form.AcceptButton](#),
[Form.ActiveForm](#), [Form.ActiveMdiChild](#), [Form.AllowTransparency](#), [Form.AutoScroll](#),
[Form.AutoSize](#), [Form.AutoSizeMode](#), [Form.AutoValidate](#), [Form.BackColor](#),
[Form.FormBorderStyle](#), [Form.CancelButton](#), [Form.ClientSize](#), [Form.ControlBox](#),
[Form.CreateParams](#), [Form.DefaultImeMode](#), [Form.DefaultSize](#), [Form.DesktopBounds](#),
[Form.DesktopLocation](#), [Form.DialogResult](#), [Form.HelpButton](#), [Form.Icon](#), [Form.IsMdiChild](#),
[Form.IsMdiContainer](#), [Form.IsRestrictedWindow](#), [Form.KeyPreview](#), [Form.Location](#),
[Form.MaximizedBounds](#), [Form.MaximumSize](#), [Form.MainMenuStrip](#), [Form.MinimumSize](#),
[Form.MaximizeBox](#), [Form.MdiChildren](#), [Form.MdiChildrenMinimizedAnchorBottom](#),
[Form.MdiParent](#), [Form.MinimizeBox](#), [Form.Modal](#), [Form.Opacity](#), [Form.OwnedForms](#),
[Form.Owner](#), [Form.RestoreBounds](#), [Form.RightToLeftLayout](#), [Form.ShowInTaskbar](#),
[Form.ShowIcon](#), [Form.ShowWithoutActivation](#), [Form.Size](#), [Form.SizeGripStyle](#),
[Form.StartPosition](#), [Form.Text](#), [Form.TopLevel](#), [Form.TopMost](#), [Form.TransparencyKey](#),
[Form.WindowState](#), [Form.AutoSizeChanged](#), [Form.AutoValidateChanged](#),
[Form.HelpButtonClicked](#), [Form.MaximizedBoundsChanged](#), [Form.MaximumSizeChanged](#),
[Form.MinimumSizeChanged](#), [Form.Activated](#), [Form.Deactivate](#), [Form.FormClosing](#),
[Form.FormClosed](#), [Form.Load](#), [Form.MdiChildActivate](#), [Form.MenuComplete](#), [Form.MenuStart](#),
[Form.InputLanguageChanged](#), [Form.InputLanguageChanging](#), [Form.RightToLeftLayoutChanged](#),
[Form.Shown](#), [Form.DpiChanged](#), [Form.ResizeBegin](#), [Form.ResizeEnd](#),
[ContainerControl.OnAutoValidateChanged\(EventArgs\)](#), [ContainerControl.OnMove\(EventArgs\)](#),
[ContainerControl.OnParentChanged\(EventArgs\)](#), [ContainerControl.PerformAutoScale\(\)](#),
[ContainerControl.RescaleConstantsForDpi\(int, int\)](#), [ContainerControl.Validate\(\)](#),
[ContainerControl.Validate\(bool\)](#), [ContainerControl.AutoScaleDimensions](#),
[ContainerControl.AutoScaleFactor](#), [ContainerControl.AutoScaleMode](#),
[ContainerControl.BindingContext](#), [ContainerControl.CanEnableIme](#), [ContainerControl.ActiveControl](#),
[ContainerControl.CurrentAutoScaleDimensions](#), [ContainerControl.ParentForm](#),

[ScrollableControl.ScrollStateAutoScrolling](#) , [ScrollableControl.ScrollStateHScrollVisible](#) ,
[ScrollableControl.ScrollStateVScrollVisible](#) , [ScrollableControl.ScrollStateUserHasScrolled](#) ,
[ScrollableControl.ScrollStateFullDrag](#) , [ScrollableControl.GetScrollState\(int\)](#) ,
[ScrollableControl.OnMouseWheel\(MouseEventArgs\)](#) ,
[ScrollableControl.OnRightToLeftChanged\(EventArgs\)](#) ,
[ScrollableControl.OnPaintBackground\(PaintEventArgs\)](#) ,
[ScrollableControl.OnPaddingChanged\(EventArgs\)](#) , [ScrollableControl.SetDisplayRectLocation\(int, int\)](#) ,
[ScrollableControl.ScrollControlIntoView\(Control\)](#) , [ScrollableControl.ScrollToControl\(Control\)](#) ,
[ScrollableControl.OnScroll\(ScrollEventArgs\)](#) , [ScrollableControl.SetAutoScrollMargin\(int, int\)](#) ,
[ScrollableControl.SetScrollState\(int, bool\)](#) , [ScrollableControl.AutoScrollMargin](#) ,
[ScrollableControl.AutoScrollPosition](#) , [ScrollableControl.AutoScrollMinSize](#) ,
[ScrollableControl.DisplayRectangle](#) , [ScrollableControl.HScroll](#) , [ScrollableControl.HorizontalScroll](#) ,
[ScrollableControl.VScroll](#) , [ScrollableControl.VerticalScroll](#) , [ScrollableControl.Scroll](#) ,
[Control.GetAccessibilityObjectById\(int\)](#) , [Control.SetAutoSizeMode\(AutoSizeMode\)](#) ,
[Control.GetAutoSizeMode\(\)](#) , [Control.GetPreferredSize\(Size\)](#) ,
[Control.AccessibilityNotifyClients\(AccessibleEvents, int\)](#) ,
[Control.AccessibilityNotifyClients\(AccessibleEvents, int, int\)](#) , [Control.BeginInvoke\(Delegate\)](#) ,
[Control.BeginInvoke\(Action\)](#) , [Control.BeginInvoke\(Delegate, params object\[\]\)](#) ,
[Control.BringToFront\(\)](#) , [Control.Contains\(Control\)](#) , [Control.CreateGraphics\(\)](#) ,
[Control.CreateControl\(\)](#) , [Control.DestroyHandle\(\)](#) , [Control.DoDragDrop\(object, DragDropEffects\)](#) ,
[Control.DoDragDrop\(object, DragDropEffects, Bitmap, Point, bool\)](#) ,
[Control.DrawToBitmap\(Bitmap, Rectangle\)](#) , [Control.EndInvoke\(IAsyncResult\)](#) , [Control.FindForm\(\)](#) ,
[Control.GetTopLevel\(\)](#) , [Control.RaiseKeyEvent\(object, KeyEventArgs\)](#) ,
[Control.RaiseMouseEvent\(object, MouseEventArgs\)](#) , [Control.Focus\(\)](#) ,
[Control.FromChildHandle\(nint\)](#) , [Control.FromHandle\(nint\)](#) ,
[Control.GetChildAtPoint\(Point, GetChildAtPointSkip\)](#) , [Control.GetChildAtPoint\(Point\)](#) ,
[Control.GetContainerControl\(\)](#) , [Control.GetNextControl\(Control, bool\)](#) ,
[Control.GetStyle\(ControlStyles\)](#) , [Control.Hide\(\)](#) , [Control.InitLayout\(\)](#) , [Control.Invalidate\(Region\)](#) ,
[Control.Invalidate\(Region, bool\)](#) , [Control.Invalidate\(\)](#) , [Control.Invalidate\(bool\)](#) ,
[Control.Invalidate\(Rectangle\)](#) , [Control.Invalidate\(Rectangle, bool\)](#) , [Control.Invoke\(Action\)](#) ,
[Control.Invoke\(Delegate\)](#) , [Control.Invoke\(Delegate, params object\[\]\)](#) , [Control.Invoke<T>\(Func<T>\)](#) ,
[Control.InvokePaint\(Control, PaintEventArgs\)](#) ,
[Control.InvokePaintBackground\(Control, PaintEventArgs\)](#) , [Control.IsKeyLocked\(Keys\)](#) ,
[Control.IsInputChar\(char\)](#) , [Control.IsInputKey\(Keys\)](#) , [Control.IsMnemonic\(char, string\)](#) ,
[Control.LogicalToDeviceUnits\(int\)](#) , [Control.LogicalToDeviceUnits\(Size\)](#) ,
[Control.ScaleBitmapLogicalToDevice\(ref Bitmap\)](#) , [Control.NotifyInvalidate\(Rectangle\)](#) ,
[Control.InvokeOnClick\(Control, EventArgs\)](#) , [Control.OnAutoSizeChanged\(EventArgs\)](#) ,
[Control.OnBackColorChanged\(EventArgs\)](#) , [Control.OnBindingContextChanged\(EventArgs\)](#) ,
[Control.OnCausesValidationChanged\(EventArgs\)](#) , [Control.OnContextMenuStripChanged\(EventArgs\)](#) ,
[Control.OnCursorChanged\(EventArgs\)](#) , [Control.OnDataContextChanged\(EventArgs\)](#) ,

[Control.OnDockChanged\(EventArgs\).☐](#) , [Control.OnForeColorChanged\(EventArgs\).☐](#) ,
[Control.OnNotifyMessage\(Message\).☐](#) , [Control.OnParentBackColorChanged\(EventArgs\).☐](#) ,
[Control.OnParentBackgroundImageChanged\(EventArgs\).☐](#) ,
[Control.OnParentBindingContextChanged\(EventArgs\).☐](#) , [Control.OnParentCursorChanged\(EventArgs\).☐](#) ,
[Control.OnParentDataContextChanged\(EventArgs\).☐](#) , [Control.OnParentEnabledChanged\(EventArgs\).☐](#) ,
[Control.OnParentFontChanged\(EventArgs\).☐](#) , [Control.OnParentForeColorChanged\(EventArgs\).☐](#) ,
[Control.OnParentRightToLeftChanged\(EventArgs\).☐](#) , [Control.OnParentVisibleChanged\(EventArgs\).☐](#) ,
[Control.OnPrint\(PaintEventArgs\).☐](#) , [Control.OnTabIndexChanged\(EventArgs\).☐](#) ,
[Control.OnTabStopChanged\(EventArgs\).☐](#) , [Control.OnClick\(EventArgs\).☐](#) ,
[Control.OnClientSizeChanged\(EventArgs\).☐](#) , [Control.OnControlAdded\(ControlEventArgs\).☐](#) ,
[Control.OnControlRemoved\(ControlEventArgs\).☐](#) , [Control.OnLocationChanged\(EventArgs\).☐](#) ,
[Control.OnDoubleClick\(EventArgs\).☐](#) , [Control.OnDragEnter\(DragEventArgs\).☐](#) ,
[Control.OnDragOver\(DragEventArgs\).☐](#) , [Control.OnDragLeave\(EventArgs\).☐](#) ,
[Control.OnDragDrop\(DragEventArgs\).☐](#) , [Control.OnGiveFeedback\(GiveFeedbackEventArgs\).☐](#) ,
[Control.InvokeGotFocus\(Control, EventArgs\).☐](#) , [Control.OnHelpRequested\(HelpEventArgs\).☐](#) ,
[Control.OnInvalidated\(InvalidateEventArgs\).☐](#) , [Control.OnKeyDown\(KeyEventArgs\).☐](#) ,
[Control.OnKeyPress\(KeyPressEventArgs\).☐](#) , [Control.OnKeyUp\(KeyEventArgs\).☐](#) ,
[Control.OnLeave\(EventArgs\).☐](#) , [Control.InvokeLostFocus\(Control, EventArgs\).☐](#) ,
[Control.OnLostFocus\(EventArgs\).☐](#) , [Control.OnMarginChanged\(EventArgs\).☐](#) ,
[Control.OnMouseDoubleClick\(MouseEventArgs\).☐](#) , [Control.OnMouseClick\(MouseEventArgs\).☐](#) ,
[Control.OnMouseCaptureChanged\(EventArgs\).☐](#) , [Control.OnMouseDown\(MouseEventArgs\).☐](#) ,
[Control.OnMouseEnter\(EventArgs\).☐](#) , [Control.OnMouseLeave\(EventArgs\).☐](#) ,
[Control.OnDpiChangedBeforeParent\(EventArgs\).☐](#) , [Control.OnDpiChangedAfterParent\(EventArgs\).☐](#) ,
[Control.OnMouseHover\(EventArgs\).☐](#) , [Control.OnMouseMove\(MouseEventArgs\).☐](#) ,
[Control.OnMouseUp\(MouseEventArgs\).☐](#) ,
[Control.OnQueryContinueDrag\(QueryContinueDragEventArgs\).☐](#) ,
[Control.OnRegionChanged\(EventArgs\).☐](#) , [Control.OnPreviewKeyDown\(PreviewKeyDownEventArgs\).☐](#) ,
[Control.OnSizeChanged\(EventArgs\).☐](#) , [Control.OnChangeUICues\(UICuesEventArgs\).☐](#) ,
[Control.OnSystemColorsChanged\(EventArgs\).☐](#) , [Control.OnValidating\(CancelEventArgs\).☐](#) ,
[Control.OnValidated\(EventArgs\).☐](#) , [Control.PerformLayout\(\).☐](#) , [Control.PerformLayout\(Control, string\).☐](#) ,
[Control.PointToClient\(Point\).☐](#) , [Control.PointToScreen\(Point\).☐](#) ,
[Control.PreProcessMessage\(ref Message\).☐](#) , [Control.PreProcessControlMessage\(ref Message\).☐](#) ,
[Control.ProcessKeyEventArgs\(ref Message\).☐](#) , [Control.ProcessKeyMessage\(ref Message\).☐](#) ,
[Control.RaiseDragEvent\(object, DragEventArgs\).☐](#) , [Control.RaisePaintEvent\(object, PaintEventArgs\).☐](#) ,
[Control.RecreateHandle\(\).☐](#) , [Control.RectangleToClient\(Rectangle\).☐](#) ,
[Control.RectangleToScreen\(Rectangle\).☐](#) , [Control.ReflectMessage\(nint, ref Message\).☐](#) ,
[Control.Refresh\(\).☐](#) , [Control.ResetMouseEventArgs\(\).☐](#) , [Control.ResetText\(\).☐](#) , [Control.ResumeLayout\(\).☐](#) ,
[Control.ResumeLayout\(bool\).☐](#) , [Control.Scale\(SizeF\).☐](#) , [Control.Select\(\).☐](#) ,
[Control.SelectNextControl\(Control, bool, bool, bool, bool\).☐](#) , [Control.SendToBack\(\).☐](#) ,
[Control.SetBounds\(int, int, int, int\).☐](#) , [Control.SetBounds\(int, int, int, int, BoundsSpecified\).☐](#) ,

[Control.SizeFromClientSize\(Size\)](#), [Control.SetStyle\(ControlStyles, bool\)](#), [Control.SetTopLevel\(bool\)](#), [Control.RtlTranslateAlignment\(HorizontalAlignment\)](#), [Control.RtlTranslateAlignment\(LeftRightAlignment\)](#), [Control.RtlTranslateAlignment\(ContentAlignment\)](#), [Control.RtlTranslateHorizontal\(HorizontalAlignment\)](#), [Control.RtlTranslateLeftRight\(LeftRightAlignment\)](#), [Control.RtlTranslateContent\(ContentAlignment\)](#), [Control.Show\(\)](#), [Control.SuspendLayout\(\)](#), [Control.Update\(\)](#), [Control.UpdateBounds\(\)](#), [Control.UpdateBounds\(int, int, int, int\)](#), [Control.UpdateBounds\(int, int, int, int, int, int\)](#), [Control.UpdateZOrder\(\)](#), [Control.UpdateStyles\(\)](#), [Control.OnImeModeChanged\(EventArgs\)](#), [Control.AccessibilityObject](#), [Control.AccessibleDefaultActionDescription](#), [Control.AccessibleDescription](#), [Control.AccessibleName](#), [Control.AccessibleRole](#), [Control.AllowDrop](#), [Control.Anchor](#), [Control.AutoScrollOffset](#), [Control.LayoutEngine](#), [Control.DataContext](#), [Control.BackgroundImage](#), [Control.BackgroundImageLayout](#), [Control.Bottom](#), [Control.Bounds](#), [Control.CanFocus](#), [Control.CanRaiseEvents](#), [Control.CanSelect](#), [Control.Capture](#), [Control.CausesValidation](#), [Control.CheckForIllegalCrossThreadCalls](#), [Control.ClientRectangle](#), [Control.CompanyName](#), [Control.ContainsFocus](#), [Control.ContextMenuStrip](#), [Control.Controls](#), [Control.Created](#), [Control.Cursor](#), [Control.DataBindings](#), [Control.DefaultBackColor](#), [Control.DefaultCursor](#), [Control.DefaultFont](#), [Control.DefaultForeColor](#), [Control.DefaultMargin](#), [Control.DefaultMaximumSize](#), [Control.DefaultMinimumSize](#), [Control.DefaultPadding](#), [Control.DeviceDpi](#), [Control.IsDisposed](#), [Control.Disposing](#), [Control.Dock](#), [Control.DoubleBuffered](#), [Control.Enabled](#), [Control.Focused](#), [Control.Font](#), [Control.FontHeight](#), [Control.ForeColor](#), [Control.Handle](#), [Control.HasChildren](#), [Control.Height](#), [Control.IsHandleCreated](#), [Control.InvokeRequired](#), [Control.IsAccessible](#), [Control.IsAncestorSiteInDesignMode](#), [Control.IsMirrored](#), [Control.Left](#), [Control.Margin](#), [Control.ModifierKeys](#), [Control.MouseButtons](#), [Control.MousePosition](#), [Control.Name](#), [Control.Parent](#), [Control.ProductName](#), [Control.ProductVersion](#), [Control.RecreatingHandle](#), [Control.Region](#), [Control.RenderRightToLeft](#), [Control.ResizeRedraw](#), [Control.Right](#), [Control.RightToLeft](#), [Control.ScaleChildren](#), [Control.Site](#), [Control.TabIndex](#), [Control.TabStop](#), [Control.Tag](#), [Control.Top](#), [Control.TopLevelControl](#), [Control.ShowKeyboardCues](#), [Control.ShowFocusCues](#), [Control.UseWaitCursor](#), [Control.Visible](#), [Control.Width](#), [Control.PreferredSize](#), [Control.Padding](#), [Control.ImeMode](#), [Control.ImeModeBase](#), [Control.PropagatingImeMode](#), [Control.BackColorChanged](#), [Control.BackgroundImageChanged](#), [Control.BackgroundImageLayoutChanged](#), [Control.BindingContextChanged](#), [Control.CausesValidationChanged](#), [Control.ClientSizeChanged](#), [Control.ContextMenuStripChanged](#), [Control.CursorChanged](#), [Control.DockChanged](#), [Control.EnabledChanged](#), [Control.FontChanged](#), [Control.ForeColorChanged](#), [Control.LocationChanged](#), [Control.MarginChanged](#), [Control.RegionChanged](#), [Control.RightToLeftChanged](#), [Control.SizeChanged](#), [Control.TabIndexChanged](#), [Control.TabStopChanged](#), [Control.TextChanged](#), [Control.VisibleChanged](#), [Control.Click](#), [Control.ControlAdded](#), [Control.ControlRemoved](#),

[Control.DataContextChanged](#), [Control.DragDrop](#), [Control.DragEnter](#), [Control.DragOver](#), [Control.DragLeave](#), [Control.GiveFeedback](#), [Control.HandleCreated](#), [Control.HandleDestroyed](#), [Control.HelpRequested](#), [Control.Invalidated](#), [Control.PaddingChanged](#), [Control.Paint](#), [Control.QueryContinueDrag](#), [Control.QueryAccessibilityHelp](#), [Control.DoubleClick](#), [Control.Enter](#), [Control.GotFocus](#), [Control.KeyDown](#), [Control.KeyPress](#), [Control.KeyUp](#), [Control.Layout](#), [Control.Leave](#), [Control.LostFocus](#), [Control.MouseClick](#), [Control.MouseDoubleClick](#), [Control.MouseCaptureChanged](#), [Control.MouseDown](#), [Control.MouseEnter](#), [Control.MouseLeave](#), [Control.DpiChangedBeforeParent](#), [Control.DpiChangedAfterParent](#), [Control.MouseHover](#), [Control.MouseMove](#), [Control.MouseUp](#), [Control.MouseWheel](#), [Control.Move](#), [Control.PreviewKeyDown](#), [Control.Resize](#), [Control.ChangeUICues](#), [Control.StyleChanged](#), [Control.SystemColorsChanged](#), [Control.Validating](#), [Control.Validated](#), [Control.ParentChanged](#), [Control.ImeModeChanged](#), [Component.Dispose\(\)](#), [Component.GetService\(Type\)](#), [Component.Container](#), [Component.DesignMode](#), [Component.Events](#), [Component.Disposed](#), [MarshalByRefObject.GetLifetimeService\(\)](#), [MarshalByRefObject.InitializeLifetimeService\(\)](#), [MarshalByRefObject.MemberwiseClone\(bool\)](#), [object.Equals\(object\)](#), [object.Equals\(object, object\)](#), [object.GetHashCode\(\)](#), [object.GetType\(\)](#), [object.MemberwiseClone\(\)](#), [object.ReferenceEquals\(object, object\)](#)

Remarks

The Form1 class serves as the primary user interface for the BOOSE application, integrating the BOOSE language parser, command factory, program storage, and canvas rendering systems. It supports both single-line command execution and multi-line program execution with immediate visual feedback on the drawing canvas.

Key features include:

- Real-time command execution with visual feedback
- Program editing and syntax checking
- Canvas-based graphical output display
- File I/O for programs and images
- Interactive pen position visualization

Constructors

Form1()

Initializes a new instance of the [Form1](#) class and sets up the complete BOOSE application environment including canvas, command factory, parser, and user interface.

```
public Form1()
```

Remarks

This constructor performs the following initialization tasks:

1. Creates a drawing canvas with dimensions matching the picture box
2. Initializes the BOOSE command factory with custom command support
3. Sets up the BOOSE parser for program interpretation
4. Configures all user interface event handlers
5. Establishes single-line command execution via Enter key

The canvas is initialized with a black background and anti-aliased rendering for high-quality graphical output.

Methods

Dispose(bool)

Clean up any resources being used.

```
protected override void Dispose(bool disposing)
```

Parameters

disposing [bool](#)[↗]

true if managed resources should be disposed; otherwise, false.