

Namespace ASE_Assignment_Bijesh

Classes

[MainForm](#)

The windows form which provides a GUI to use the boose interpreter and its implementations

Class MainForm

Namespace: ASE Assignment Bijesh

Assembly: ASE Assignment Bijesh.dll

The windows form which provides a GUI to use the boose interpreter and its implementations

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

Inheritance

```
object ↳ ← MarshalByRefObject ↳ ← Component ↳ ← Control ↳ ← ScrollableControl ↳ ←  
ContainerControl ↳ ← Form ↳ ← MainForm
```

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.ScaleMinAxisSize\(float, float, bool\)](#) ,
[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.PerformLayout\(\)](#) , [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.OnInvalidate\(EventArgs\)](#) , [Control.OnKeyDown\(KeyEventEventArgs\)](#) ,
[Control.OnKeyPress\(KeyEventEventArgs\)](#) , [Control.OnKeyUp\(KeyEventEventArgs\)](#) ,
[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.RtlTranslateContent\(ContentAlignment\)](#) ,
[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\(object, object\)](#)

Constructors

MainForm()

The public constructor for the form. Initializes all of the factory, program and parser objects

```
public MainForm()
```

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.

Namespace ASE_Assignment_Bijesh.Src

Classes

[BooseSingleRunnerForTests](#)

An encapsulated streamlined class for testing the BOOSE interpreter

[BooseWrapper](#)

An encapsulated streamlined class for running the BOOSE interpreter

Interfaces

[IBooseWrapper](#)

An interface to create a streamlined boose wrapper

Class BooseSingleRunnerForTests

Namespace: [ASE Assignment Bijesh.Src](#)

Assembly: ASE Assignment Bijesh.dll

An encapsulated streamlined class for testing the BOOSE interpreter

```
public class BooseSingleRunnerForTests
```

Inheritance

[object](#) ← BooseSingleRunnerForTests

Inherited Members

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

Constructors

BooseSingleRunnerForTests()

Public constructor

```
public BooseSingleRunnerForTests()
```

Methods

GetCurrentPosition()

```
public Point GetCursorPosition()
```

Returns

[Point](#)

RunProgram(string)

```
public void RunProgram(string program)
```

Parameters

program string ↗

Class BooseWrapper

Namespace: [ASE Assignment Bijesh.Src](#)

Assembly: ASE Assignment Bijesh.dll

An encapsulated streamlined class for running the BOOSE interpreter

```
public class BooseWrapper : IBooseWrapper
```

Inheritance

[object](#) ← BooseWrapper

Implements

[IBooseWrapper](#)

Inherited Members

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

Properties

Instance

```
public static BooseWrapper Instance { get; }
```

Property Value

[BooseWrapper](#)

Methods

ClearScreen()

Clears the Screen

```
public void ClearScreen()
```

GetBitmap()

Returns the bitmap of the current state of the canvas

```
public Bitmap GetBitmap()
```

Returns

[Bitmap](#)

GetCurrentPosition()

Returns the current X,Y coordinate of the virtual cursor at

```
public Point GetCursorPosition()
```

Returns

[Point](#)

GetInstance()

Returns the singleton instance as a IBooseWrapper reference

```
public static IBooseWrapper GetInstance()
```

Returns

[IBooseWrapper](#)

Reset()

Clears the Screen

```
public void Reset()
```

RunProgram(string)

Compiles and runs the program given in the program string

```
public void RunProgram(string program)
```

Parameters

program string

Interface IBooseWrapper

Namespace: [ASE Assignment Bijesh.Src](#)

Assembly: ASE Assignment Bijesh.dll

An interface to create a streamlined boose wrapper

```
public interface IBooseWrapper
```

Fields

Instance

Single static singleton instance

```
public static BooseWrapper Instance
```

Field Value

[BooseWrapper](#)

Methods

ClearScreen()

Clears the Screen

```
void ClearScreen()
```

GetBitmap()

Returns the bitmap of the current state of the canvas

```
Bitmap GetBitmap()
```

Returns

[Bitmap](#)

GetCurrentPosition()

Returns the current X,Y coordinate of the virtual cursor at

```
Point GetCurrentPosition()
```

Returns

[Point](#)

GetInstance()

Returns the static instance

```
public static abstract IBooseWrapper GetInstance()
```

Returns

[IBooseWrapper](#)

Reset()

Resets the interpreter to the starting condition

```
void Reset()
```

RunProgram(string)

Compiles and runs the program given in the program string

```
void RunProgram(string program)
```

Parameters

program string ↗

Namespace ASE_Assignment_Bijesh.Src. Command

Classes

[CommandBrushColor](#)

The brush color object returned for the brush command, changes the brush color on execution

[CommandCall](#)

Replaced Implementation of the call function to support the rewritten Evaluation Methods class

[CommandCircle](#)

The circle object returned for the circle command. Draws a circle on execution. May be a filled circle if true is passed as second parameter.

[CommandFilledCircle](#)

The filled circle object returned for the fcircle command. Draws a filled circle on execution.

[CommandFilledRectangle](#)

The filled rectangle object returned for the frectangle command. Draws a filled rectangle on execution.

[CommandRect](#)

The rectangle object returned for the rectangle command. Draws a rectangle on execution. May be a filled rectangle if true is passed as second parameter.

[CommandTriangle](#)

The triangle object returned for the tri command. Draws an Isosceles triangle on execution.

[CommandWrite](#)

The write object returned for the write command.

Class CommandBrushColor

Namespace: [ASE Assignment Bijesh.Src.Command](#)

Assembly: ASE Assignment Bijesh.dll

The brush color object returned for the brush command, changes the brush color on execution

```
public class CommandBrushColor : CommandThreeParameters, ICommand
```

Inheritance

[object](#) ← Command ← CanvasCommand ← CommandOneParameter ← CommandTwoParameters ← CommandThreeParameters ← CommandBrushColor

Implements

ICommand

Inherited Members

CommandThreeParameters.param3 , CommandThreeParameters.param3unprocessed ,
CommandTwoParameters.param2 , CommandTwoParameters.param2unprocessed ,
CommandOneParameter.param1 , CommandOneParameter.param1unprocessed ,
CanvasCommand.yPos , CanvasCommand.xPos , CanvasCommand.canvas , CanvasCommand.Canvas ,
Command.program , Command.parameterList , Command.parameters , Command.paramsint ,
[Command.Set\(StoredProgram, string\)](#) , Command.Compile() , [Command.ProcessParameters\(string\)](#) ,
Command.ToString() , Command.Program , Command.Name , Command.ParameterList ,
Command.Parameters , Command.Paramsint , [object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) ,
[object.GetHashCode\(\)](#) , [object.GetType\(\)](#) , [object.MemberwiseClone\(\)](#) ,
[object.ReferenceEquals\(object, object\)](#)

Constructors

CommandBrushColor()

Public empty constructor

```
public CommandBrushColor()
```

CommandBrushColor(Canvas, int, int, int)

Parameterized constructor to directly create object without factory interaction

```
public CommandBrushColor(Canvas canvas, int r, int g, int b)
```

Parameters

canvas Canvas

The canvas object of the output.

r [int](#)

The red value.

g [int](#)

The green value.

b [int](#)

The blue value.

Methods

CheckParameters(string[])

Validation of the parameters

```
public override void CheckParameters(string[] parameterList)
```

Parameters

parameterList [string](#)[]

The string array of parameters.

Execute()

The Execute method called during stored program execution

```
public override void Execute()
```

Class CommandCall

Namespace: [ASE Assignment Bijesh.Src.Command](#)

Assembly: ASE Assignment Bijesh.dll

Replaced Implementation of the call function to support the rewritten Evaluation Methods class

```
public class CommandCall : Call, ICommand
```

Inheritance

[object](#) ← Command ← Evaluation ← Boolean ← ConditionalCommand ← CompoundCommand ← Call ← CommandCall

Implements

ICommand

Inherited Members

Call.methodName , CompoundCommand.ReduceRestrictions() ,
[CompoundCommand.CheckParameters\(string\[\]\)](#) , CompoundCommand.CorrespondingCommand ,
ConditionalCommand.endLineNumber , ConditionalCommand.EndLineNumber ,
ConditionalCommand.Condition , ConditionalCommand.LineNumber , ConditionalCommand.CondType ,
ConditionalCommand.ReturnLineNumber , Boolean.BoolValue , Evaluation.expression ,
Evaluation.evaluatedExpression , Evaluation.varName , Evaluation.value ,
[Evaluation.ProcessExpression\(string\)](#) , Evaluation.Expression , Evaluation.VarName , Evaluation.Value ,
Evaluation.Local , Command.program , Command.parameterList , Command.parameters ,
Command.paramsint , [Command.Set\(StoredProgram, string\)](#) , [Command.ProcessParameters\(string\)](#) ,
Command.ToString() , Command.Program , Command.Name , Command.ParameterList ,
Command.Parameters , Command.Parmsint , [object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) ,
[object.GetHashCode\(\)](#) , [object.GetType\(\)](#) , [object.MemberwiseClone\(\)](#) ,
[object.ReferenceEquals\(object, object\)](#)

Constructors

CommandCall()

The empty constructor, upcasts the base stored program object into an AppStoredProgram object.

```
public CommandCall()
```

Methods

Compile()

Creates method objects to store in the program stack. Reduces the restriction counter of the base class.

```
public override void Compile()
```

Execute()

The Execute method called during stored program execution finds and executes the method as a program.

```
public override void Execute()
```

Restrictions()

Just removes the restrictions from the compound command class

```
public override void Restrictions()
```

Class CommandCircle

Namespace: [ASE Assignment Bijesh.Src.Command](#)

Assembly: ASE Assignment Bijesh.dll

The circle object returned for the circle command. Draws a circle on execution. May be a filled circle if true is passed as second parameter.

```
public class CommandCircle : CommandTwoParameters, ICommand
```

Inheritance

[object](#) ← Command ← CanvasCommand ← CommandOneParameter ← CommandTwoParameters ← CommandCircle

Implements

ICommand

Inherited Members

CommandTwoParameters.param2 , CommandTwoParameters.param2unprocessed ,
CommandOneParameter.param1 , CommandOneParameter.param1unprocessed ,
CanvasCommand.yPos , CanvasCommand.xPos , CanvasCommand.canvas , CanvasCommand.Canvas ,
Command.program , Command.parameterList , Command.parameters , Command.paramsint ,
[Command.Set\(StoredProgram, string\)](#) , Command.Compile() , [Command.ProcessParameters\(string\)](#) ,
Command.ToString() , Command.Program , Command.Name , Command.ParameterList ,
Command.Parameters , Command.Paramsint , [object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) ,
[object.GetHashCode\(\)](#) , [object.GetType\(\)](#) , [object.MemberwiseClone\(\)](#) ,
[object.ReferenceEquals\(object, object\)](#)

Constructors

CommandCircle()

```
public CommandCircle()
```

Methods

CheckParameters(string[])

Validation of the parameters

```
public override void CheckParameters(string[] parameterList)
```

Parameters

parameterList [string](#)[]

The string array of parameters.

Execute()

The Execute method called during stored program execution

```
public override void Execute()
```

Class CommandFilledCircle

Namespace: [ASE Assignment Bijesh.Src.Command](#)

Assembly: ASE Assignment Bijesh.dll

The filled circle object returned for the fcircle command. Draws a filled circle on execution.

```
public class CommandFilledCircle : CommandOneParameter, ICommand
```

Inheritance

[object](#) ← Command ← CanvasCommand ← CommandOneParameter ← CommandFilledCircle

Implements

ICommand

Inherited Members

CommandOneParameter.param1 , CommandOneParameter.param1unprocessed ,
CanvasCommand.yPos , CanvasCommand.xPos , CanvasCommand.canvas , CanvasCommand.Canvas ,
Command.program , Command.parameterList , Command.parameters , Command.paramsint ,
[Command.Set\(StoredProgram, string\)](#) , Command.Compile() , [Command.ProcessParameters\(string\)](#) ,
Command.ToString() , Command.Program , Command.Name , Command.ParameterList ,
Command.Parameters , Command.Paramsint , [object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) ,
[object.GetHashCode\(\)](#) , [object.GetType\(\)](#) , [object.MemberwiseClone\(\)](#) ,
[object.ReferenceEquals\(object, object\)](#)

Constructors

CommandFilledCircle()

Public empty constructor

```
public CommandFilledCircle()
```

CommandFilledCircle(Canvas, int)

Parameterized constructor to directly create object without factory interaction

```
public CommandFilledCircle(Canvas canvas, int radius)
```

Parameters

canvas Canvas

The canvas object of the output.

radius [int](#)

The radius of the circle.

Methods

CheckParameters(string[])

Validation of the parameters

```
public override void CheckParameters(string[] parameterList)
```

Parameters

parameterList [string](#)[]

The string array of parameters.

Execute()

The Execute method called during stored program execution

```
public override void Execute()
```

Class CommandFilledRectangle

Namespace: [ASE Assignment Bijesh.Src.Command](#)

Assembly: ASE Assignment Bijesh.dll

The filled circle object returned for the fcircle command. Draws a filled circle on execution.

```
public class CommandFilledRectangle : CommandTwoParameters, ICommand
```

Inheritance

[object](#) ← Command ← CanvasCommand ← CommandOneParameter ← CommandTwoParameters ← CommandFilledRectangle

Implements

ICommand

Inherited Members

CommandTwoParameters.param2 , CommandTwoParameters.param2unprocessed ,
CommandOneParameter.param1 , CommandOneParameter.param1unprocessed ,
CanvasCommand.yPos , CanvasCommand.xPos , CanvasCommand.canvas , CanvasCommand.Canvas ,
Command.program , Command.parameterList , Command.parameters , Command.paramsint ,
[Command.Set\(StoredProgram, string\)](#) , Command.Compile() , [Command.ProcessParameters\(string\)](#) ,
Command.ToString() , Command.Program , Command.Name , Command.ParameterList ,
Command.Parameters , Command.Paramsint , [object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) ,
[object.GetHashCode\(\)](#) , [object.GetType\(\)](#) , [object.MemberwiseClone\(\)](#) ,
[object.ReferenceEquals\(object, object\)](#)

Constructors

CommandFilledRectangle()

Public empty constructor

```
public CommandFilledRectangle()
```

CommandFilledRectangle(Canvas, int, int)

Parameterized constructor to directly create object without factory interaction

```
public CommandFilledRectangle(Canvas canvas, int width, int height)
```

Parameters

canvas Canvas

The canvas object of the output.

width [int](#)

The width of the rectangle.

height [int](#)

The height of the rectangle.

Methods

CheckParameters(string[])

Validation of the parameters

```
public override void CheckParameters(string[] parameterList)
```

Parameters

parameterList [string](#)[]

The string array of parameters.

Execute()

The Execute method called during stored program execution

```
public override void Execute()
```

Class CommandRect

Namespace: [ASE Assignment Bijesh.Src.Command](#)

Assembly: ASE Assignment Bijesh.dll

The circle object returned for the circle command. Draws a circle on execution. May be a filled circle if true is passed as second parameter.

```
public class CommandRect : CommandThreeParameters, ICommand
```

Inheritance

[object](#) ← Command ← CanvasCommand ← CommandOneParameter ← CommandTwoParameters ← CommandThreeParameters ← CommandRect

Implements

ICommand

Inherited Members

CommandThreeParameters.param3 , CommandThreeParameters.param3unprocessed ,
CommandTwoParameters.param2 , CommandTwoParameters.param2unprocessed ,
CommandOneParameter.param1 , CommandOneParameter.param1unprocessed ,
CanvasCommand.yPos , CanvasCommand.xPos , CanvasCommand.canvas , CanvasCommand.Canvas ,
Command.program , Command.parameterList , Command.parameters , Command.paramsint ,
[Command.Set\(StoredProgram, string\)](#) , Command.Compile() , [Command.ProcessParameters\(string\)](#) ,
Command.ToString() , Command.Program , Command.Name , Command.ParameterList ,
Command.Parameters , Command.Paramsint , [object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) ,
[object.GetHashCode\(\)](#) , [object.GetType\(\)](#) , [object.MemberwiseClone\(\)](#) ,
[object.ReferenceEquals\(object, object\)](#)

Constructors

CommandRect()

```
public CommandRect()
```

Methods

CheckParameters(string[])

Validation of the parameters

```
public override void CheckParameters(string[] parameterList)
```

Parameters

parameterList [string](#)[]

The string array of parameters.

Execute()

The Execute method called during stored program execution

```
public override void Execute()
```

Class CommandTriangle

Namespace: [ASE Assignment Bijesh.Src.Command](#)

Assembly: ASE Assignment Bijesh.dll

The triangle object returned for the tri command. Draws an Isosceles triangle on execution.

```
public class CommandTriangle : CommandTwoParameters, ICommand
```

Inheritance

[object](#) ← Command ← CanvasCommand ← CommandOneParameter ← CommandTwoParameters ← CommandTriangle

Implements

ICommand

Inherited Members

CommandTwoParameters.param2 , CommandTwoParameters.param2unprocessed ,
CommandOneParameter.param1 , CommandOneParameter.param1unprocessed ,
CanvasCommand.yPos , CanvasCommand.xPos , CanvasCommand.canvas , CanvasCommand.Canvas ,
Command.program , Command.parameterList , Command.parameters , Command.paramsint ,
[Command.Set\(StoredProgram, string\)](#) , Command.Compile() , [Command.ProcessParameters\(string\)](#) ,
Command.ToString() , Command.Program , Command.Name , Command.ParameterList ,
Command.Parameters , Command.Paramsint , [object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) ,
[object.GetHashCode\(\)](#) , [object.GetType\(\)](#) , [object.MemberwiseClone\(\)](#) ,
[object.ReferenceEquals\(object, object\)](#)

Constructors

CommandTriangle()

Public empty constructor

```
public CommandTriangle()
```

CommandTriangle(Canvas, int, int)

Parameterized constructor to directly create object without factory interaction

```
public CommandTriangle(Canvas canvas, int width, int height)
```

Parameters

canvas Canvas

The canvas object of the output.

width int

The width of the base of the triangle.

height int

The height of the triangle.

Methods

CheckParameters(string[])

Validation of the parameters

```
public override void CheckParameters(string[] parameterList)
```

Parameters

parameterList string[]

The string array of parameters.

Execute()

The Execute method called during stored program execution

```
public override void Execute()
```

Class CommandWrite

Namespace: [ASE Assignment Bijesh.Src.Command](#)

Assembly: ASE Assignment Bijesh.dll

The write object returned for the write command.

```
public class CommandWrite : CommandTwoParameters, ICommand
```

Inheritance

[object](#) ← Command ← CanvasCommand ← CommandOneParameter ← CommandTwoParameters ← CommandWrite

Implements

ICommand

Inherited Members

CommandTwoParameters.param2 , CommandTwoParameters.param2unprocessed ,
CommandOneParameter.param1 , CommandOneParameter.param1unprocessed ,
CanvasCommand.yPos , CanvasCommand.xPos , CanvasCommand.canvas , CanvasCommand.Canvas ,
Command.program , Command.parameterList , Command.parameters , Command.paramsint ,
[Command.Set\(StoredProgram, string\)](#) , Command.Compile() , [Command.ProcessParameters\(string\)](#) ,
Command.ToString() , Command.Program , Command.Name , Command.ParameterList ,
Command.Parameters , Command.Paramsint , [object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) ,
[object.GetHashCode\(\)](#) , [object.GetType\(\)](#) , [object.MemberwiseClone\(\)](#) ,
[object.ReferenceEquals\(object, object\)](#)

Constructors

CommandWrite()

Public empty constructor

```
public CommandWrite()
```

CommandWrite(Canvas)

Parameterized constructor to directly create object without factory interaction

```
public CommandWrite(Canvas canvas)
```

Parameters

canvas Canvas

Methods

CheckParameters(string[])

Validation of the parameters

```
public override void CheckParameters(string[] parameterList)
```

Parameters

parameterList string[]

Execute()

The Execute method called during stored program execution Writes the given expression after it is evaluated by the stored program

```
public override void Execute()
```

Namespace ASE_Assignment_Bijesh.Src. Components

Classes

[AppCanvas](#)

The canvas class which is to be manipulated by the BOOSE interpreter

[AppCommand](#)

Extension of the app command class, Unused, only created for study

[AppCommandFactory](#)

Uses the factory design methodology. The command factory which takes in the parsed command from the parser and then returns new objects specified by the commands

[AppParser](#)

Replaced parser for this implementation of the BOOSE interpreter.

[AppStoredProgram](#)

Replaced Implementation of the stored program class

Interfaces

[IExtendedCanvas](#)

Extended canvas interface to support additional features.

Class AppCanvas

Namespace: [ASE Assignment Bijesh.Src.Components](#)

Assembly: ASE Assignment Bijesh.dll

The canvas class which is to be manipulated by the BOOSE interpreter

```
public class AppCanvas : IExtendedCanvas, ICanvas
```

Inheritance

[object](#) ← AppCanvas

Implements

[IExtendedCanvas](#), ICanvas

Inherited Members

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

Constructors

AppCanvas()

Public constructor that calls the set function to setup the canvas

```
public AppCanvas()
```

Properties

BrushColour

Return and set the brush colour

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

Property Value

[object](#)

PenColour

Required Pen object from the interface, unused.

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

Property Value

[object](#)

Xpos

X coordinate of the current position

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

Property Value

[int](#)

Ypos

Y coordinate of the current position

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

Property Value

[int](#)

Methods

Circle(int, bool)

Draws a circle at the current position

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

Parameters

radius [int](#)

The Radius of the circle.

filled [bool](#)

The fill status of the circle if true, filled.

Clear()

Clears the screen by filling it with gray

```
public void Clear()
```

DrawTo(int, int)

Draws a line from the current position to the given end point

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

Parameters

x [int](#)

The x coordinate of the end point.

y [int](#)

The y coordinate of the end point.

MoveTo(int, int)

Sets the current position to the given point

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

Parameters

x [int](#)

The x coordinate of the given point.

y [int](#)

The y coordinate of the given point.

Rect(int, int, bool)

Draws a rectangle at the current position of the given parameters.

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

Parameters

width [int](#)

The width of the rectangle.

height [int](#)

The height of the rectangle.

filled [bool](#)

Boolean value to set the fill of the rectangle.

Reset()

Resets the current position of the cursor.

```
public void Reset()
```

Set(int, int)

Initializer for the app canvas class. Sets the canvas size, brush and color.

```
public void Set(int xsize, int ysize)
```

Parameters

xsize [int](#)

The width of the canvas.

ysize [int](#)

The height of the canvas.

SetBrushColour(int, int, int)

Changes the color of the brush given an rgb value.

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

Parameters

red [int](#)

The red value.

green [int](#)

The green value.

blue [int](#)

The blue value.

SetColour(int, int, int)

Changes the color of the pen given an rgb value.

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

Parameters

red [int](#)

The red value.

green [int](#)

The green value.

blue [int](#)

The blue value.

Tri(int, int)

Draws a triangle at the current position with the given width and height

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

Parameters

width [int](#)

height [int](#)

WriteText(string)

Writes a string on the canvas at the current position

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

Parameters

text [string](#)

The string value to be printed.

getBitmap()

Returns the bitmap of the canvas

```
public object getBitmap()
```

Returns

object

Bitmap

Class AppCommand

Namespace: [ASE Assignment Bijesh.Src.Components](#)

Assembly: ASE Assignment Bijesh.dll

Extension of the app command class, Unused, only created for study

```
public abstract class AppCommand : Command, ICommand
```

Inheritance

[object](#) ← Command ← AppCommand

Implements

ICommand

Inherited Members

Command.program , Command.parameterList , Command.parameters , Command.paramsint ,
[Command.CheckParameters\(string\[\]\)](#) , [Command.Set\(StoredProgram, string\)](#) , Command.Compile() ,
Command.Execute() , [Command.ProcessParameters\(string\)](#) , Command.ToString() , Command.Program ,
Command.Name , Command.ParameterList , Command.Parameters , Command.Paramsint ,
[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#)

Constructors

AppCommand(AppStoredProgram)

Primary constructor

```
protected AppCommand(AppStoredProgram storedProgram)
```

Parameters

storedProgram [AppStoredProgram](#)

Fields

_storedProgram

The stored program reference used to reference to the command stack

```
protected AppStoredProgram _storedProgram
```

Field Value

[AppStoredProgram](#)

Properties

StoredProgram

Public setter and getter to access the Programs store

```
public AppStoredProgram StoredProgram { get; set; }
```

Property Value

[AppStoredProgram](#)

Methods

Set(AppStoredProgram, string)

Function to add the current command to the stored program

```
public void Set(AppStoredProgram Program, string Params)
```

Parameters

Program [AppStoredProgram](#)

Params [string](#)

Class AppCommandFactory

Namespace: [ASE Assignment Bijesh.Src.Components](#)

Assembly: ASE Assignment Bijesh.dll

Uses the factory design methodology. The command factory which takes in the parsed command from the parser and then returns new objects specified by the commands

```
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)

Method to return the new required objects

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

Parameters

commandType [string](#)

Returns

ICommand

Class AppParser

Namespace: [ASE Assignment Bijesh.Src.Components](#)

Assembly: ASE Assignment Bijesh.dll

Replaced parser for this implementation of the BOOSE interpreter.

```
public class AppParser : IParser
```

Inheritance

[object](#) ← AppParser

Implements

IParser

Inherited Members

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

Constructors

AppParser(CommandFactory, AppStoredProgram)

```
public AppParser(CommandFactory Factory, AppStoredProgram Program)
```

Parameters

Factory CommandFactory

Program [AppStoredProgram](#)

Methods

ParseCommand(string)

Parses the passed in single line BOOSE code into a line of BOOSE program and adds it to the list of stored programs

```
public ICommand? ParseCommand(string line)
```

Parameters

line [string](#)

One line of preprocessed BOOSE program

Returns

ICommand

Exceptions

ParserException

ParseProgram(string)

Takes in a multi-line BOOSE program string and converts it single line programs, converting any evaluations into their respective base commands and passes it to the Parse command method

```
public void ParseProgram(string program)
```

Parameters

program [string](#)

Class AppStoredProgram

Namespace: [ASE Assignment Bijesh.Src.Components](#)

Assembly: ASE Assignment Bijesh.dll

Replaced Implementation of the stored program class

```
public class AppStoredProgram : StoredProgram, IList, ICollection, IEnumerable,  
ICloneable, IStoredProgram
```

Inheritance

[object](#) ← [ArrayList](#) ← [StoredProgram](#) ← [AppStoredProgram](#)

Implements

[IList](#), [ICollection](#), [IEnumerable](#), [ICloneable](#), [IStoredProgram](#)

Inherited Members

StoredProgram.SyntaxOk , StoredProgram.AddMethod(Method) ,
StoredProgram.AddVariable(Evaluation) , [StoredProgram.GetVariable\(string\)](#) ,
[StoredProgram.GetVariable\(int\)](#) , StoredProgram.FindVariable(Evaluation) ,
[StoredProgram.FindVariable\(string\)](#) , [StoredProgram.VariableExists\(string\)](#) ,
[StoredProgram.GetVarValue\(string\)](#) , [StoredProgram.UpdateVariable\(string, int\)](#) ,
[StoredProgram.UpdateVariable\(string, double\)](#) , [StoredProgram.UpdateVariable\(string, bool\)](#) ,
[StoredProgram.DeleteVariable\(string\)](#) , [StoredProgram.IsExpression\(string\)](#) ,
[StoredProgram.EvaluateExpressionWithString\(string\)](#) , [StoredProgram.EvaluateExpression\(string\)](#) ,
StoredProgram.Add(Command) , StoredProgram.NextCommand() , StoredProgram.Commandsleft() ,
StoredProgram.PC , [ArrayList.Adapter\(IList\)](#) , [ArrayList.Add\(object\)](#) ,
[ArrayList.AddRange\(ICollection\)](#) , [ArrayList.BinarySearch\(int, int, object, IComparer\)](#) ,
[ArrayList.BinarySearch\(object\)](#) , [ArrayList.BinarySearch\(object, IComparer\)](#) , [ArrayList.Clear\(\)](#) ,
[ArrayList.Clone\(\)](#) , [ArrayList.Contains\(object\)](#) , [ArrayList.CopyTo\(Array\)](#) ,
[ArrayList.CopyTo\(Array, int\)](#) , [ArrayList.CopyTo\(int, Array, int, int\)](#) , [ArrayList.FixedSize\(ArrayList\)](#) ,
[ArrayList.FixedSize\(IList\)](#) , [ArrayList.GetEnumerator\(\)](#) , [ArrayList.GetEnumerator\(int, int\)](#) ,
[ArrayList.GetRange\(int, int\)](#) , [ArrayList.IndexOf\(object\)](#) , [ArrayList.IndexOf\(object, int\)](#) ,
[ArrayList.IndexOf\(object, int, int\)](#) , [ArrayList.Insert\(int, object\)](#) ,
[ArrayList.InsertRange\(int, ICollection\)](#) , [ArrayList.LastIndexOf\(object\)](#) ,
[ArrayList.LastIndexOf\(object, int\)](#) , [ArrayList.LastIndexOf\(object, int, int\)](#) ,
[ArrayList.ReadOnly\(ArrayList\)](#) , [ArrayList.ReadOnly\(IList\)](#) , [ArrayList.Remove\(object\)](#) ,
[ArrayList.RemoveAt\(int\)](#) , [ArrayList.RemoveRange\(int, int\)](#) , [ArrayList.Repeat\(object, int\)](#) ,
[ArrayList.Reverse\(\)](#) , [ArrayList.Reverse\(int, int\)](#) , [ArrayList.SetRange\(int, ICollection\)](#) ,
[ArrayList.Sort\(\)](#) , [ArrayList.Sort\(IComparer\)](#) , [ArrayList.Sort\(int, int, IComparer\)](#) ,

[ArrayList.Synchronized\(ArrayList\)](#) , [ArrayList.Synchronized\(IList\)](#) , [ArrayList.ToArray\(\)](#) ,
[ArrayList.ToArray\(Type\)](#) , [ArrayList.TrimToSize\(\)](#) , [ArrayList.Capacity](#) , [ArrayList.Count](#) ,
[ArrayList.IsFixedSize](#) , [ArrayList.IsReadOnly](#) , [ArrayList.IsSynchronized](#) , [ArrayList.this\[int\]](#) ,
[ArrayList.SyncRoot](#) , [object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) ,
[object.GetType\(\)](#) , [object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) ,
[object.ToString\(\)](#)

Remarks

Default constructor, just initializes the base class

Constructors

AppStoredProgram(ICanvas)

Replaced Implementation of the stored program class

```
public AppStoredProgram(ICanvas canvas)
```

Parameters

`canvas` ICanvas

Remarks

Default constructor, just initializes the base class

Methods

AddMethod(EvaluationMethod)

Add a method into the methods list TODO: overwrite or replace methods of the same name for the latter declaration

```
public void AddMethod(EvaluationMethod method)
```

Parameters

method [EvaluationMethod](#)

GetMethod(string)

Finds a method by its name

```
public EvaluationMethod GetMethod(string MethodName)
```

Parameters

MethodName [string](#)

Returns

[EvaluationMethod](#)

The method

Exceptions

StoredProgramException

Pop()

Remove the top program from the program stack

```
public override ConditionalCommand Pop()
```

Returns

ConditionalCommand

BOOSE Program Object

Exceptions

StoredProgramException

Push(ConditionalCommand)

Insert a BOOSE program into the program stack

```
public override void Push(ConditionalCommand Com)
```

Parameters

Com ConditionalCommand

ResetProgram()

Resets the program to the initial state

```
public override void ResetProgram()
```

Run()

Run the program using the compiled programs list

```
public override void Run()
```

Exceptions

StoredProgramException

Interface IExtendedCanvas

Namespace: [ASE Assignment Bijesh.Src.Components](#)

Assembly: ASE Assignment Bijesh.dll

Extended canvas interface to support additional features.

```
public interface IExtendedCanvas : ICanvas
```

Inherited Members

[ICanvas.Set\(int, int\)](#) , [ICanvas.SetColour\(int, int, int\)](#) , [ICanvas.MoveTo\(int, int\)](#) ,
[ICanvas.DrawLine\(int, int\)](#) , [ICanvas.DrawTo\(int, int\)](#) , [ICanvas.Clear\(\)](#) , [ICanvas.Reset\(\)](#) , [ICanvas.Circle\(int, bool\)](#) ,
[ICanvas.Rect\(int, int, bool\)](#) , [ICanvas.Tri\(int, int\)](#) , [ICanvas.WriteText\(string\)](#) , [ICanvas.getBitmap\(\)](#) ,
ICanvas.Xpos , ICanvas.Ypos , ICanvas.PenColour

Properties

BrushColour

Return and set the brush colour

```
object BrushColour { get; set; }
```

Property Value

[object](#)

Methods

SetBrushColour(int, int, int)

Change the color of the brush used for text and filled shapes

```
void SetBrushColour(int red, int green, int blue)
```

Parameters

red [int ↗](#)

green [int ↗](#)

blue [int ↗](#)

Namespace ASE_Assignment_Bijesh.Src. Conditionals

Classes

[AppCompoundCommand](#)

The replaced Compound command implementation from the BOOSE library, Currently unused, was just used for study

[AppConditionalCommand](#)

The replaced conditional command implementation from the BOOSE library, Currently unused, was just used for study

Enums

[AppConditionalCommand.ConditionalTypes](#)

Specifies the conditional types

Class AppCompoundCommand

Namespace: [ASE Assignment Bijesh.Src.Conditions](#)

Assembly: ASE Assignment Bijesh.dll

The replaced Compound command implementation from the BOOSE library, Currently unused, was just used for study

```
public class AppCompoundCommand : AppConditionalCommand, ICommand
```

Inheritance

[object](#) ← Command ← Evaluation ← Boolean ← ConditionalCommand ← [AppConditionalCommand](#) ← AppCompoundCommand

Implements

ICommand

Inherited Members

ConditionalCommand.endLineNumber , ConditionalCommand.EndLineNumber ,
ConditionalCommand.Condition , ConditionalCommand.LineNumber , ConditionalCommand.CondType ,
ConditionalCommand.ReturnLineNumber , Boolean.BoolValue , Evaluation.expression ,
Evaluation.evaluatedExpression , Evaluation.varName , Evaluation.value ,
[Evaluation.CheckParameters\(string\[\]\)](#) , [Evaluation.ProcessExpression\(string\)](#) , Evaluation.Expression ,
Evaluation.VarName , Evaluation.Value , Evaluation.Local , Command.program , Command.parameterList ,
Command.parameters , Command.paramsint , [Command.Set\(StoredProgram, string\)](#) ,
[Command.ProcessParameters\(string\)](#) , Command.ToString() , Command.Program , Command.Name ,
Command.ParameterList , Command.Parameters , Command.Paramsint , [object.Equals\(object\)](#) ,
[object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#)

Methods

Compile()

Compiles the conditional command and its it on the program stack

```
public override void Compile()
```

Execute()

Execute method which runs during stored program execution

```
public override void Execute()
```

Restrictions()

Remove the restrictions

```
public override void Restrictions()
```

Class AppConditionalCommand

Namespace: [ASE Assignment Bijesh.Src.Conditionals](#)

Assembly: ASE Assignment Bijesh.dll

The replaced conditional command implementation from the BOOSE library, Currently unused, was just used for study

```
public class AppConditionalCommand : ConditionalCommand, ICommand
```

Inheritance

[object](#) ← Command ← Evaluation ← Boolean ← ConditionalCommand ← AppConditionalCommand

Implements

ICommand

Derived

[AppCompoundCommand](#)

Inherited Members

ConditionalCommand.endLineNumber , ConditionalCommand.EndLineNumber ,
ConditionalCommand.Condition , ConditionalCommand.LineNumber , ConditionalCommand.CondType ,
ConditionalCommand.ReturnLineNumber , Boolean.BoolValue , Evaluation.expression ,
Evaluation.evaluatedExpression , Evaluation.varName , Evaluation.value ,
[Evaluation.CheckParameters\(string\[\]\)](#) , [Evaluation.ProcessExpression\(string\)](#) , Evaluation.Expression ,
Evaluation.VarName , Evaluation.Value , Evaluation.Local , Command.program , Command.parameterList ,
Command.parameters , Command.paramsint , [Command.Set\(StoredProgram, string\)](#) ,
[Command.ProcessParameters\(string\)](#) , Command.ToString() , Command.Program , Command.Name ,
Command.ParameterList , Command.Parameters , Command.Paramsint , [object.Equals\(object\)](#) ,
[object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#)

Methods

Compile()

Compiles the program and pushes it into the stack

```
public override void Compile()
```

Execute()

The execute function which runs during program execution

```
public override void Execute()
```

Restrictions()

Removes the restrictions of the base class

```
public override void Restrictions()
```

Enum AppConditionalCommand.ConditionalTypes

Namespace: [ASE Assignment Bijesh.Src.Conditionals](#)

Assembly: ASE Assignment Bijesh.dll

Specifies the conditional types

```
public enum AppConditionalCommand.ConditionalTypes
```

Fields

commFor = 2

commIF = 0

commWhile = 1

Namespace ASE_Assignment_Bijesh.Src. Evaluations

Classes

[EvaluationArray](#)

The replaced implementation of the array class. Accepts an array of type Int and Real Only reduces/removes the restrictions for now.

[EvaluationBool](#)

Replaced implementation of the Boolean class Just removes the number of instances limit restriction

[EvaluationElse](#)

Replaced implementation of the else command, reduces the restrictions. Must be used alongside an if command

[EvaluationEnd](#)

Replaced implementation of the end command, reduces the restrictions. Must be used at the end of a conditional or a method command block

[EvaluationFor](#)

Replaced implementation of the for command, reduces the restrictions. Allows the program to create a for loop

[EvaluationIf](#)

Replaced implementation of the if command, reduces the restrictions. Allows conditional branching

[EvaluationInt](#)

Replaced implementation of the Int command, reduces the restrictions. Used to store and retrieve integer variables and their values.

[EvaluationIntRewrite](#)

Rewrite of the int class without inheriting Int, not used due to issues with the stored program

[EvaluationMethod](#)

[EvaluationReal](#)

Replaced implementation of the Real command, reduces the restrictions. Used to store and retrieve real number variables and their values.

[EvaluationWhile](#)

Replaced implementation of the While command, reduces the restrictions. Used to create while loops in the interpreter. Needs to be accompanied by an end command

Class EvaluationArray

Namespace: [ASE Assignment Bijesh.Src.Evaluations](#)

Assembly: ASE Assignment Bijesh.dll

The replaced implementation of the array class. Accepts an array of type Int and Real Only reduces/removes the restrictions for now.

```
public class EvaluationArray : Array, ICommand
```

Inheritance

[object](#) ← Command ← Evaluation ← Array ← EvaluationArray

Implements

ICommand

Inherited Members

Array.PEEK , Array.POKE , Array.type , Array.rows , Array.columns , Array.valueInt , Array.valueReal ,
Array.intArray , Array.realArray , Array.pokeValue , Array.peekVar , Array.rowS , Array.columnS , Array.row ,
Array.column , Array.ArrayRestrictions() , Array.ReduceRestrictionCounter() , Array.Compile() ,
[Array.CheckParameters\(string\[\]\)](#) , Array.Execute() , [Array.ProcessArrayParametersCompile\(bool\)](#) ,
[Array.ProcessArrayParametersExecute\(bool\)](#) , [Array.SetIntArray\(int, int, int\)](#) ,
[Array.SetRealArray\(double, int, int\)](#) , [Array.GetIntArray\(int, int\)](#) , [Array.GetRealArray\(int, int\)](#) ,
Array.Rows , Array.Columns , Evaluation.expression , Evaluation.evaluatedExpression ,
Evaluation.varName , Evaluation.value , [Evaluation.ProcessExpression\(string\)](#) , Evaluation.Expression ,
Evaluation.VarName , Evaluation.Value , Evaluation.Local , Command.program , Command.parameterList ,
Command.parameters , Command.paramsint , [Command.Set\(StoredProgram, string\)](#) ,
[Command.ProcessParameters\(string\)](#) , Command.ToString() , Command.Program , Command.Name ,
Command.ParameterList , Command.Parameters , Command.Paramsint , [object.Equals\(object\)](#) ,
[object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#)

Constructors

EvaluationArray()

Public Constructor, just reduces the restriction counter.

```
public EvaluationArray()
```

Class EvaluationBool

Namespace: [ASE Assignment Bijesh.Src.Evaluations](#)

Assembly: ASE Assignment Bijesh.dll

Replaced implementation of the Boolean class Just removes the number of instances limit restriction

```
public class EvaluationBool : Boolean, ICommand
```

Inheritance

[object](#) ← Command ← Evaluation ← Boolean ← EvaluationBool

Implements

ICommand

Inherited Members

Boolean.Compile() , Boolean.Execute() , Boolean.BoolValue , Evaluation.expression ,
Evaluation.evaluatedExpression , Evaluation.varName , Evaluation.value ,
[Evaluation.CheckParameters\(string\[\]\)](#) , [Evaluation.ProcessExpression\(string\)](#) , Evaluation.Expression ,
Evaluation.VarName , Evaluation.Value , Evaluation.Local , Command.program , Command.parameterList ,
Command.parameters , Command.paramsint , [Command.Set\(StoredProgram, string\)](#) ,
[Command.ProcessParameters\(string\)](#) , Command.ToString() , Command.Program , Command.Name ,
Command.ParameterList , Command.Parameters , Command.Paramsint , [object.Equals\(object\)](#) ,
[object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#)

Methods

Restrictions()

Removes the restrictions on the base boolean class by overriding it

```
public override void Restrictions()
```

Class EvaluationElse

Namespace: [ASE Assignment Bijesh.Src.Evaluations](#)

Assembly: ASE Assignment Bijesh.dll

Replaced implementation of the else command, reduces the restrictions. Must be used alongside an if command

```
public class EvaluationElse : Else, ICommand
```

Inheritance

[object](#) ← Command ← Evaluation ← Boolean ← ConditionalCommand ← CompoundCommand ← Else ← EvaluationElse

Implements

ICommand

Inherited Members

[Else.CheckParameters\(string\[\]\)](#) , Else.Compile() , Else.Execute() , Else.CorrectingEnd ,
CompoundCommand.ReduceRestrictions() , CompoundCommand.CorrectingCommand ,
ConditionalCommand.endLineNumber , ConditionalCommand.EndLineNumber ,
ConditionalCommand.Condition , ConditionalCommand.LineNumber , ConditionalCommand.CondType ,
ConditionalCommand.ReturnLineNumber , Boolean.BoolValue , Evaluation.expression ,
Evaluation.evaluatedExpression , Evaluation.varName , Evaluation.value ,
[Evaluation.ProcessExpression\(string\)](#) , Evaluation.Expression , Evaluation.VarName , Evaluation.Value ,
Evaluation.Local , Command.program , Command.parameterList , Command.parameters ,
Command.paramsint , [Command.Set\(StoredProgram, string\)](#) , [Command.ProcessParameters\(string\)](#) ,
Command.ToString() , Command.Program , Command.Name , Command.ParameterList ,
Command.Parameters , Command.Paramsint , [object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) ,
[object.GetHashCode\(\)](#) , [object.GetType\(\)](#) , [object.MemberwiseClone\(\)](#) ,
[object.ReferenceEquals\(object, object\)](#)

Constructors

EvaluationElse()

Public Constructor, just reduces the restriction counter.

```
public EvaluationElse()
```

Methods

Restrictions()

Removes the restrictions on the base class by overriding it

```
public override void Restrictions()
```

Class EvaluationEnd

Namespace: [ASE Assignment Bijesh.Src.Evaluations](#)

Assembly: ASE Assignment Bijesh.dll

Replaced implementation of the end command, reduces the restrictions. Must be used at the end of a conditional or a method command block

```
public class EvaluationEnd : End, ICommand
```

Inheritance

[object](#) ← Command ← Evaluation ← Boolean ← ConditionalCommand ← CompoundCommand ← End ← EvaluationEnd

Implements

ICommand

Inherited Members

End.Compile() , CompoundCommand.ReduceRestrictions() ,
[CompoundCommand.CheckParameters\(string\[\]\)](#) , CompoundCommand.CorrectingCommand ,
ConditionalCommand.endLineNumber , ConditionalCommand.EndLineNumber ,
ConditionalCommand.Condition , ConditionalCommand.LineNumber , ConditionalCommand.CondType ,
ConditionalCommand.ReturnLineNumber , Boolean.BoolValue , Evaluation.expression ,
Evaluation.evaluatedExpression , Evaluation.varName , Evaluation.value ,
[Evaluation.ProcessExpression\(string\)](#) , Evaluation.Expression , Evaluation.VarName , Evaluation.Value ,
Evaluation.Local , Command.program , Command.parameterList , Command.parameters ,
Command.paramsint , [Command.Set\(StoredProgram, string\)](#) , [Command.ProcessParameters\(string\)](#) ,
Command.ToString() , Command.Program , Command.Name , Command.ParameterList ,
Command.Parameters , Command.Paramsint , [object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) ,
[object.GetHashCode\(\)](#) , [object.GetType\(\)](#) , [object.MemberwiseClone\(\)](#) ,
[object.ReferenceEquals\(object, object\)](#)

Constructors

EvaluationEnd()

Public Constructor, just reduces the restriction counter.

```
public EvaluationEnd()
```

Methods

Execute()

Method called when the End method is executed in the BOOSE Program

```
public override void Execute()
```

Restrictions()

Removes the restrictions on the base class by overriding it

```
public override void Restrictions()
```

Class EvaluationFor

Namespace: [ASE Assignment Bijesh.Src.Evaluations](#)

Assembly: ASE Assignment Bijesh.dll

Replaced implementation of the for command, reduces the restrictions. Allows the program to create a for loop

```
public class EvaluationFor : For, ICommand
```

Inheritance

[object](#) ← Command ← Evaluation ← Boolean ← ConditionalCommand ← For ← EvaluationFor

Implements

ICommand

Inherited Members

For.Compile() , For.Execute() , For.LoopControlV , For.From , For.To , For.Step ,
ConditionalCommand.endLineNumber , ConditionalCommand.EndLineNumber ,
ConditionalCommand.Condition , ConditionalCommand.LineNumber , ConditionalCommand.CondType ,
ConditionalCommand.ReturnLineNumber , Boolean.BoolValue , Evaluation.expression ,
Evaluation.evaluatedExpression , Evaluation.varName , Evaluation.value ,
[Evaluation.CheckParameters\(string\[\]\)](#) , [Evaluation.ProcessExpression\(string\)](#) , Evaluation.Expression ,
Evaluation.VarName , Evaluation.Value , Evaluation.Local , Command.program , Command.parameterList ,
Command.parameters , Command.paramsint , [Command.Set\(StoredProgram, string\)](#) ,
[Command.ProcessParameters\(string\)](#) , Command.ToString() , Command.Program , Command.Name ,
Command.ParameterList , Command.Parameters , Command.Paramsint , [object.Equals\(object\)](#) ,
[object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#)

Methods

Restrictions()

Removes the restrictions on the base class by overriding it

```
public override void Restrictions()
```

Class EvaluationIf

Namespace: [ASE Assignment Bijesh.Src.Evaluations](#)

Assembly: ASE Assignment Bijesh.dll

Replaced implementation of the if command, reduces the restrictions. Allows conditional branching

```
public class EvaluationIf : If, ICommand
```

Inheritance

[object](#) ← Command ← Evaluation ← Boolean ← ConditionalCommand ← CompoundCommand ← If ← EvaluationIf

Implements

ICommand

Inherited Members

CompoundCommand.ReduceRestrictions() , [CompoundCommand.CheckParameters\(string\[\]\)](#) ,
CompoundCommand.Compile() , CompoundCommand.CorrespondingCommand ,
ConditionalCommand.endLineNumber , ConditionalCommand.Execute() ,
ConditionalCommand.EndLineNumber , ConditionalCommand.Condition ,
ConditionalCommand.LineNumber , ConditionalCommand.CondType ,
ConditionalCommand.ReturnLineNumber , Boolean.BoolValue , Evaluation.expression ,
Evaluation.evaluatedExpression , Evaluation.varName , Evaluation.value ,
[Evaluation.ProcessExpression\(string\)](#) , Evaluation.Expression , Evaluation.VarName , Evaluation.Value ,
Evaluation.Local , Command.program , Command.parameterList , Command.parameters ,
Command.paramsint , [Command.Set\(StoredProgram, string\)](#) , [Command.ProcessParameters\(string\)](#) ,
Command.ToString() , Command.Program , Command.Name , Command.ParameterList ,
Command.Parameters , Command.Paramsint , [object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) ,
[object.GetHashCode\(\)](#) , [object.GetType\(\)](#) , [object.MemberwiseClone\(\)](#) ,
[object.ReferenceEquals\(object, object\)](#)

Constructors

EvaluationIf()

Public Constructor, just reduces the restriction counter.

```
public EvaluationIf()
```

Methods

Restrictions()

Removes the restrictions on the base class by overriding it

```
public override void Restrictions()
```

Class EvaluationInt

Namespace: [ASE Assignment Bijesh.Src.Evaluations](#)

Assembly: ASE Assignment Bijesh.dll

Replaced implementation of the Int command, reduces the restrictions. Used to store and retrieve integer variables and their values.

```
public class EvaluationInt : Int, ICommand
```

Inheritance

[object](#) ← Command ← Evaluation ← Int ← EvaluationInt

Implements

ICommand

Inherited Members

Evaluation.expression , Evaluation.evaluatedExpression , Evaluation.varName , Evaluation.value ,
[Evaluation.CheckParameters\(string\[\]\)](#) , [Evaluation.ProcessExpression\(string\)](#) , Evaluation.Expression ,
Evaluation.VarName , Evaluation.Value , Evaluation.Local , Command.program , Command.parameterList ,
Command.parameters , Command.paramsint , [Command.Set\(StoredProgram, string\)](#) ,
[Command.ProcessParameters\(string\)](#) , Command.ToString() , Command.Program , Command.Name ,
Command.ParameterList , Command.Parameters , Command.Paramsint , [object.Equals\(object\)](#) ,
[object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#)

Methods

Compile()

Compiles the Int into the program stack

```
public override void Compile()
```

Execute()

The Execute method called during program execution, evaluates and attempts to save an int variable

```
public override void Execute()
```

Exceptions

StoredProgramException

Restrictions()

Removes the restrictions on the base class by overriding it

```
public override void Restrictions()
```

Class EvaluationIntRewrite

Namespace: [ASE Assignment Bijesh.Src.Evaluations](#)

Assembly: ASE Assignment Bijesh.dll

Rewrite of the int class without inheriting Int, not used due to issues with the stored program

```
public class EvaluationIntRewrite : Evaluation, ICommand
```

Inheritance

[object](#) ← Command ← Evaluation ← EvaluationIntRewrite

Implements

ICommand

Inherited Members

Evaluation.expression , Evaluation.evaluatedExpression , Evaluation.varName , Evaluation.value ,
[Evaluation.CheckParameters\(string\[\]\)](#) , [Evaluation.ProcessExpression\(string\)](#) , Evaluation.Expression ,
Evaluation.VarName , Evaluation.Value , Evaluation.Local , Command.program , Command.parameterList ,
Command.parameters , Command.paramsint , [Command.Set\(StoredProgram, string\)](#) ,
[Command.ProcessParameters\(string\)](#) , Command.ToString() , Command.Program , Command.Name ,
Command.ParameterList , Command.Parameters , Command.Paramsint , [object.Equals\(object\)](#) ,
[object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#)

Constructors

EvaluationIntRewrite()

Public constructor

```
public EvaluationIntRewrite()
```

Methods

Compile()

Adds the program to the program stack to compile it

```
public override void Compile()
```

Execute()

The method called during execution of the program

```
public override void Execute()
```

Exceptions

StoredProgramException

Class EvaluationMethod

Namespace: [ASE Assignment Bijesh.Src.Evaluations](#)

Assembly: ASE Assignment Bijesh.dll

```
public class EvaluationMethod : CompoundCommand, ICommand
```

Inheritance

[object](#) ← Command ← Evaluation ← Boolean ← ConditionalCommand ← CompoundCommand ← EvaluationMethod

Implements

ICommand

Inherited Members

CompoundCommand.ReduceRestrictions() , [CompoundCommand.CheckParameters\(string\[\]\)](#) ,
CompoundCommand.CorrectingCommand , ConditionalCommand.endLineNumber ,
ConditionalCommand.EndLineNumber , ConditionalCommand.Condition ,
ConditionalCommand.LineNumber , ConditionalCommand.CondType ,
ConditionalCommand.ReturnLineNumber , Boolean.BoolValue , Evaluation.expression ,
Evaluation.evaluatedExpression , Evaluation.varName , Evaluation.value ,
[Evaluation.ProcessExpression\(string\)](#) , Evaluation.Expression , Evaluation.VarName , Evaluation.Value ,
Evaluation.Local , Command.program , Command.parameterList , Command.parameters ,
Command.paramsint , [Command.Set\(StoredProgram, string\)](#) , [Command.ProcessParameters\(string\)](#) ,
Command.ToString() , Command.Program , Command.Name , Command.ParameterList ,
Command.Parameters , Command.Paramsint , [object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) ,
[object.GetHashCode\(\)](#) , [object.GetType\(\)](#) , [object.MemberwiseClone\(\)](#) ,
[object.ReferenceEquals\(object, object\)](#)

Constructors

EvaluationMethod()

```
public EvaluationMethod()
```

Properties

LocalVariables

The array to store the local variables

```
public string[] LocalVariables { get; }
```

Property Value

[string](#)[]

MethodName

Public access to the private method name

```
public string MethodName { get; }
```

Property Value

[string](#)[]

Type

The return type of the program

```
public string Type { get; }
```

Property Value

[string](#)[]

Methods

Compile()

Compiles the method and sets the beginning and returning line numbers and sets up the local variables

```
public override void Compile()
```

Exceptions

CommandException

Execute()

The method that runs during program execution

```
public override void Execute()
```

Restrictions()

Removes the restrictions on the base class by overriding it

```
public override void Restrictions()
```

Class EvaluationReal

Namespace: [ASE Assignment Bijesh.Src.Evaluations](#)

Assembly: ASE Assignment Bijesh.dll

Replaced implementation of the Real command, reduces the restrictions. Used to store and retrieve real number variables and their values.

```
public class EvaluationReal : Real, ICommand
```

Inheritance

[object](#) ← Command ← Evaluation ← Real ← EvaluationReal

Implements

ICommand

Inherited Members

Real.Compile() , Real.Execute() , Real.Value , Evaluation.expression , Evaluation.evaluatedExpression , Evaluation.varName , Evaluation.value , [Evaluation.CheckParameters\(string\[\]\)](#) , [Evaluation.ProcessExpression\(string\)](#) , Evaluation.Expression , Evaluation.VarName , Evaluation.Local , Command.program , Command.parameterList , Command.parameters , Command.paramsint , [Command.Set\(StoredProgram, string\)](#) , [Command.ProcessParameters\(string\)](#) , Command.ToString() , Command.Program , Command.Name , Command.ParameterList , Command.Parameters , Command.Paramsint , [object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) , [object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#)

Methods

Restrictions()

Removes the restrictions on the base class by overriding it

```
public override void Restrictions()
```

Class EvaluationWhile

Namespace: [ASE Assignment Bijesh.Src.Evaluations](#)

Assembly: ASE Assignment Bijesh.dll

Replaced implementation of the While command, reduces the restrictions. Used to create while loops in the interpreter. Needs to be accompanied by an end command

```
public class EvaluationWhile : While, ICommand
```

Inheritance

[object](#) ← Command ← Evaluation ← Boolean ← ConditionalCommand ← CompoundCommand ← While ← EvaluationWhile

Implements

ICommand

Inherited Members

CompoundCommand.ReduceRestrictions() , [CompoundCommand.CheckParameters\(string\[\]\)](#) ,
CompoundCommand.Compile() , CompoundCommand.CorrespondingCommand ,
ConditionalCommand.endLineNumber , ConditionalCommand.Execute() ,
ConditionalCommand.EndLineNumber , ConditionalCommand.Condition ,
ConditionalCommand.LineNumber , ConditionalCommand.CondType ,
ConditionalCommand.ReturnLineNumber , Boolean.BoolValue , Evaluation.expression ,
Evaluation.evaluatedExpression , Evaluation.varName , Evaluation.value ,
[Evaluation.ProcessExpression\(string\)](#) , Evaluation.Expression , Evaluation.VarName , Evaluation.Value ,
Evaluation.Local , Command.program , Command.parameterList , Command.parameters ,
Command.paramsint , [Command.Set\(StoredProgram, string\)](#) , [Command.ProcessParameters\(string\)](#) ,
Command.ToString() , Command.Program , Command.Name , Command.ParameterList ,
Command.Parameters , Command.Paramsint , [object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) ,
[object.GetHashCode\(\)](#) , [object.GetType\(\)](#) , [object.MemberwiseClone\(\)](#) ,
[object.ReferenceEquals\(object, object\)](#)

Constructors

EvaluationWhile()

Public Constructor, just reduces the restriction counter.

```
public EvaluationWhile()
```

Methods

Restrictions()

Removes the restrictions on the base class by overriding it

```
public override void Restrictions()
```

Namespace ASE_Assignment_Bijesh_Tests

Classes

[BooseWrapperTests](#)

The Unit tests for the Boose Wrapper class.

[CanvasTests](#)

The Unit tests for the AppCanvas Class. Tests the final positions of the cursor after the methods are called.

[MainAppTests](#)

The Unit tests for the Mainform Class but tests the overall BOOSE System implementation.

Class BoozeWrapperTests

Namespace: [ASE Assignment Bijesh Tests](#)

Assembly: ASE Assignment Tests.dll

The Unit tests for the Booze Wrapper class.

```
[TestClass]
public class BoozeWrapperTests
```

Inheritance

[object](#) ← BoozeWrapperTests

Inherited Members

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

Methods

TestArrayEvaluation()

Tests the array evaluation command creation

```
[TestMethod]
public void TestArrayEvaluation()
```

TestBrush()

Tests the brush command creation

```
[TestMethod]
public void TestBrush()
```

TestCircle()

Tests the circle command creation

```
[TestMethod]  
public void TestCircle()
```

TestDrawToMainProgram()

Tests the drawto command passed through the parser

```
[TestMethod]  
public void TestDrawToMainProgram()
```

TestElseEvaluation()

Tests the else evaluation command creation

```
[TestMethod]  
public void TestElseEvaluation()
```

TestFilledCircle()

Tests the filled circle command creation

```
[TestMethod]  
public void TestFilledCircle()
```

TestFilledRectangle()

Tests the filled rectangle command creation

```
[TestMethod]  
public void TestFilledRectangle()
```

TestForEvaluation()

Tests the for evaluation command creation

```
[TestMethod]  
public void TestForEvaluation()
```

TestIfEvaluation()

Tests the if evaluation command creation

```
[TestMethod]  
public void TestIfEvaluation()
```

TestIntEvaluation()

Tests the int evaluation command creation

```
[TestMethod]  
public void TestIntEvaluation()
```

TestMethodEvaluation()

Tests the method evaluation command creation

```
[TestMethod]  
public void TestMethodEvaluation()
```

TestMoveToMainProgram()

Tests the moveto command passed through the parser

```
[TestMethod]  
public void TestMoveToMainProgram()
```

TestMultiLineMainProgram()

Tests system by passing in a multiline program

```
[TestMethod]  
public void TestMultiLineMainProgram()
```

TestRealEvaluation()

Tests the real evaluation command creation

```
[TestMethod]  
public void TestRealEvaluation()
```

TestRectangle()

Tests the rectangle command creation

```
[TestMethod]  
public void TestRectangle()
```

TestTriangle()

Tests the triangle command creation

```
[TestMethod]  
public void TestTriangle()
```

TestWrite()

Tests the write command creation

```
[TestMethod]  
public void TestWrite()
```

Class CanvasTests

Namespace: [ASE Assignment Bijesh Tests](#)

Assembly: ASE Assignment Tests.dll

The Unit tests for the AppCanvas Class. Tests the final positions of the cursor after the methods are called.

```
[TestClass]  
public class CanvasTests
```

Inheritance

[object](#) ← CanvasTests

Inherited Members

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

Methods

TestBitmap()

Tests the get bitmap function

```
[TestMethod]  
public void TestBitmap()
```

TestChangeBrushColour()

Tests the changing the brush colour externally

```
[TestMethod]  
public void TestChangeBrushColour()
```

TestChangePenColour()

Tests the changing the pen colour externally

```
[TestMethod]  
public void TestChangePenColour()
```

TestCircle()

Tests the circle method

```
[TestMethod]  
public void TestCircle()
```

TestCircleFilled()

Tests the circle method with fill true

```
[TestMethod]  
public void TestCircleFilled()
```

TestClear()

Tests the canvas clear method

```
[TestMethod]  
public void TestClear()
```

TestDrawToCanvas()

```
[TestMethod]  
public void TestDrawToCanvas()
```

TestMoveToCanvas()

```
[TestMethod]  
public void TestMoveToCanvas()
```

TestMultiLineMainProgram()

Tests system by passing in a multiline program

```
[TestMethod]  
public void TestMultiLineMainProgram()
```

TestRect()

Tests the Rectangle method

```
[TestMethod]  
public void TestRect()
```

TestRectFilled()

Tests the Rectangle method with fill true

```
[TestMethod]  
public void TestRectFilled()
```

TestResetCanvas()

Tests the canvas reset method

```
[TestMethod]  
public void TestResetCanvas()
```

TestSetCanvas()

Tests the set canvas method

```
[TestMethod]  
public void TestSetCanvas()
```

TestTriangle()

Tests the Triangle

```
[TestMethod]  
public void TestTriangle()
```

TestWriteText()

Tests the write text method

```
[TestMethod]  
public void TestWriteText()
```

Class MainAppTests

Namespace: [ASE Assignment Bijesh Tests](#)

Assembly: ASE Assignment Tests.dll

The Unit tests for the Mainform Class but tests the overall BOOSE System implementation.

```
[TestClass]  
public class MainAppTests
```

Inheritance

[object](#) ← MainAppTests

Inherited Members

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

Methods

TestDrawToMainProgram()

Tests the drawto command passed through the parser

```
[TestMethod]  
public void TestDrawToMainProgram()
```

TestMoveToMainProgram()

Tests the moveto command passed through the parser

```
[TestMethod]  
public void TestMoveToMainProgram()
```

TestMultiLineMainProgram()

Tests system by passing in a multiline program

```
[TestMethod]  
public void TestMultiLineMainProgram()
```