

PROGRAMMING LANGUAGE 2 (SPM3112)

VISUAL BASIC OBJECTS – PART 1

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Topics

- 1. Button & label**
- 2. Text box**
- 3. Picture box & image**
- 4. Frame**
- 5. Option button and Check box**

Form and Controls

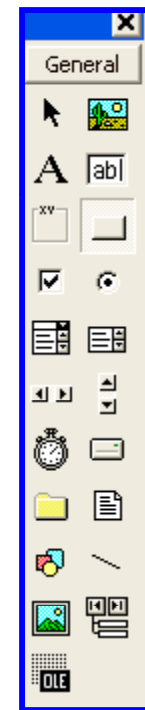
- **Forms** → provide the basis of the user interface for VB application.
- **Controls** → are added to a form so it provides the data and actions that are required.
- **Forms and controls** → are actually two types of OBJECTs in VB.

Form And Controls

- An **OBJECT** is software *package* → contains a collection of related procedures & data.
 - also has *properties, methods & events.*
 - **PROPERTIES** → attribute values of an object.
 - **METHODS** → actually VB functions or procedures.
 - **EVENTS** → pre-defined code that DEFINED an event.

Toolbox

- Toolbox provides user → necessary controls.
- User → click any control from toolbox to the selected area (form) in order to use it.
- Toolbox has 47 basic controls → by default only the most used controls are listed in it.
- More controls can be added by Project>Components.



Command Button

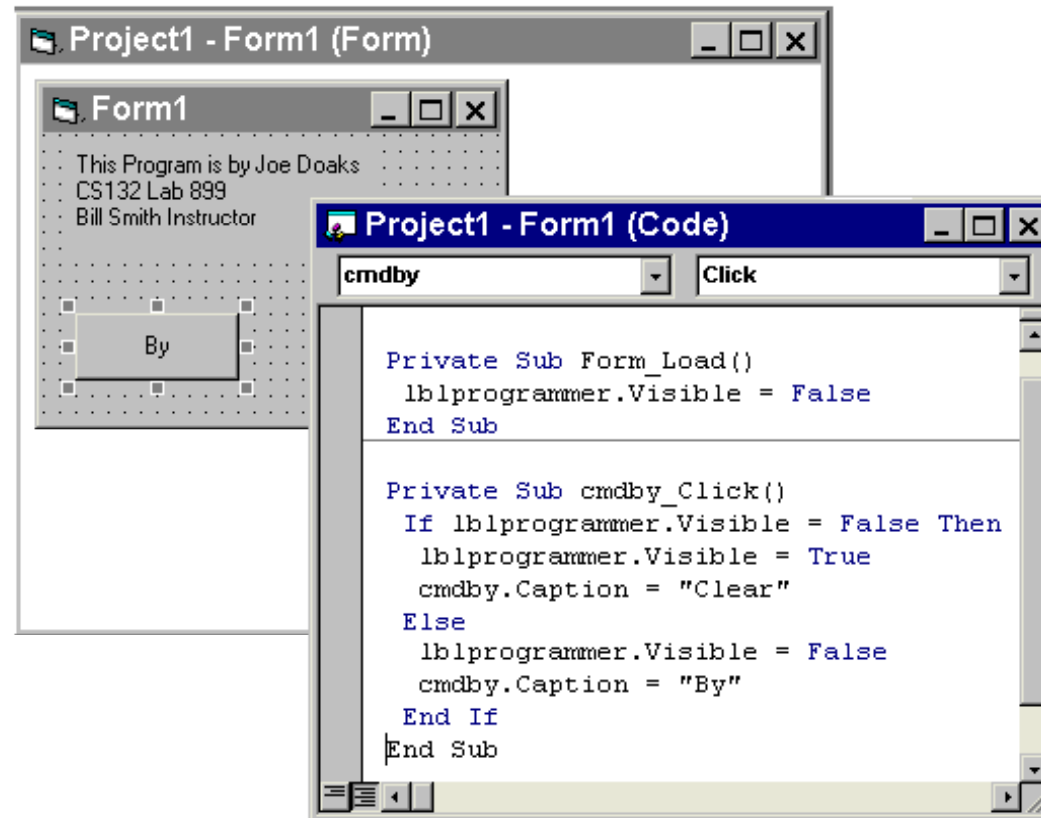
- `CommandButton (button)` → is used to activate action.
 - also performs an immediate action when clicked.
- How to use button?
- How to change button title?
- Button condition?
 - Up ??
 - Down??
 - Disabled??
- How to change cursor?
- Tooltips text?

Command Button

- Setfocus?
- Gotfocus?
- Lostfocus?
- *CommandButton.Caption = "" – will clear the content*
- *CommandButton.Caption = "Hello" – will assign hello*
- *CommandButton.Caption = 28 – will assign number*
- *End* – same function as exit.

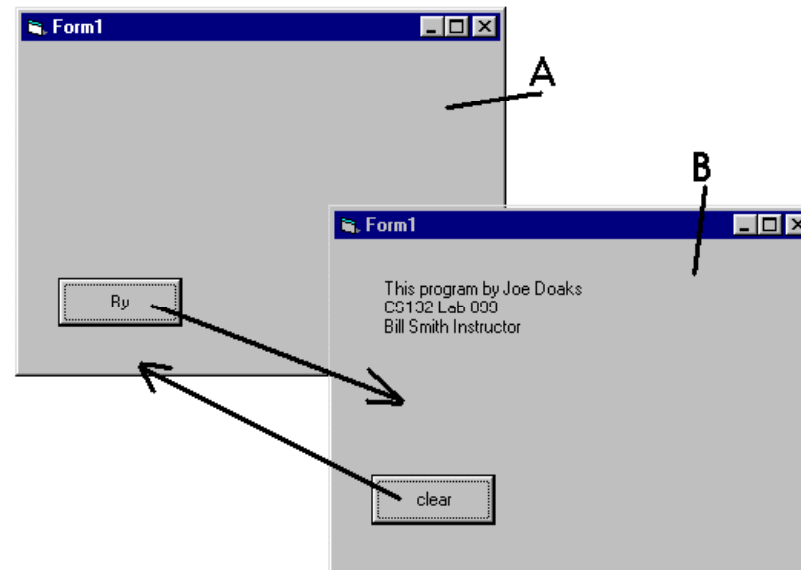
Example

Command Button Example



Command Button Example

- When program execution begins,
 - the system starts as in “A”, when the “**commandby**” button is pressed the system goes to “B”.
- Repeated pressing of the “**commandby**” button bounces the system between the two states.



Label

- Label control → is use to display descriptive text to the user.
 - **can not be edited** during application's runtime.
- BackStyle
 - Opaque
 - Transparent
- Autosize
 - True
 - False

Label

- The label control → an object with 37 named **Properties**.
 - can adjust its **size** & **position** with the mouse.
 - can change its **name** its **caption** & **visibility** using the Properties window.

Label

Change with Properties >>>

Properties - Label1	
Label1 Label	
Alphabetic Categorized	
(Name)	Label1
Alignment	0 - Left Justify
Appearance	1 - 3D
AutoSize	False
BackColor	<input type="color" value="#800000F&"/>
BackStyle	1 - Opaque
BorderStyle	0 - None
Caption	Label1
DataField	
DataFormat	
DataMember	
DataSource	
DragIcon	(None)
DragMode	0 - Manual
Enabled	True
Font	M5 Sans Serif
ForeColor	<input type="color" value="#80000012&"/>
Height	495

>> BackColor

>> BorderStyle

Change with Properties >>>

>> Font

>> ForeColor

Height	495	<<< Change with Mouse
Index		
Left	1800	<<< Change with Mouse
LinkItem		
LinkMode	0 - None	
LinkTimeout	50	
LinkTopic		
MouseIcon	(None)	
MousePointer	0 - Default	
OLEDropMode	0 - None	
RightToLeft	False	
TabIndex	0	
Tag		
ToolTipText		
Top	1320	<<< Change with Mouse
UseMnemonic	True	
Visible	True	<<< Change with Properties
WhatsThisHelpID	0	
Width	1215	<<< Change with Mouse
WordWrap	False	

Good Programming Habit

- Labels → given a **name** that begins with “**lbl**”.
- The **Caption** property → can be anything
 - makes sense, eg. one or more words or symbols.
 - Caption : **displayed** for the user.
 - name : **accessible to the programmer**.
- The **Visible** property → either **True or False**.
 - If false, → label is not displayed.

Label

- Some of useful label properties and coding:
 - *AutoSize* = True
 - reset label to the correct size to keep the whole text string visible.
 - *LabelName.Caption* = “ ”
 - will clear the content of label
 - *LabelName.Caption* = “Hello”
 - will assign *hello* to label
 - *LabelName.Caption* = 28
 - will assign 28 (*number*) to label

Label

Some of useful label properties and coding:

- `LabelName.Caption`
 - will change label title
- `LabelName.BackColor = RGB(R, G, B)`
 - will give background color

`RGB(255,0,0)=red,`

`RGB(0,255,0) = green,`

`RGB(0,0,255)=blue`

- `LabelName.backStyle = 1` (for opaque), `0` (for transparent)

Textbox

- **Text box** control →
 - can do both : allowing the user to input data
 - or displays output.
- TextBox → used to display and accept text strings.
- Each text string → captured as a Unicode character.
- TextBox can be displayed
 - multiple line
 - can store up to 32K bytes of characters.
- The text string in a TextBox is shown in **Text property**.

Textbox

- The *text* property contains the string of text displayed by the text box.
 - default this text can be edited by the user at runtime.
- Proper prefix for text box names → *txt*.
- Text boxes **DO NOT** have *Caption* property.

Picture Box & Image

- PictureBox → used to place a graphic image.
- The image can be a bitmap, jpeg, gif, icon or metafile.
- The proper prefix for picture box names is **pct**.
- What is the different between picture box and image?
 - No backcolor??

Picture Box & Image

- When you have to use picture box and image?
- *LoadPicture("String")*
 - code for loading any pictures
- *AutoSize*
 - set as True will reset picture to the correct size to keep the whole picture visible.
- App.Path & "filename"

Example

Frame

- Frames → be used to group sets of controls.
- When place certain new controls on top of the frame
→ they are automatically grouped together.
 - If controls are not on a frame they are grouped on a form.
 - VB allows transparent frame?

Option Button & Check Box

- Option button
 - Value: false or true
- Check Box
 - Value: 0 Unchecked
 - 1 Checked
 - 2 Grayed
- How to use them?

Timer

- Create a timer control using the **Timer tool** in the toolbox.
- Use a **timer control** → process code at regular time intervals.
- Just simply set the control's → **Interval property** to the length of the desired time interval : in milliseconds.

Using Timer

- Then, set its **Enabled property = True**.
- The **Enabled property**
 - determines **whether an object can respond to an event**.
 - tick event procedure **tells the computer what to do after each time interval has elapsed**.
- **Now** - *will display current date and time*