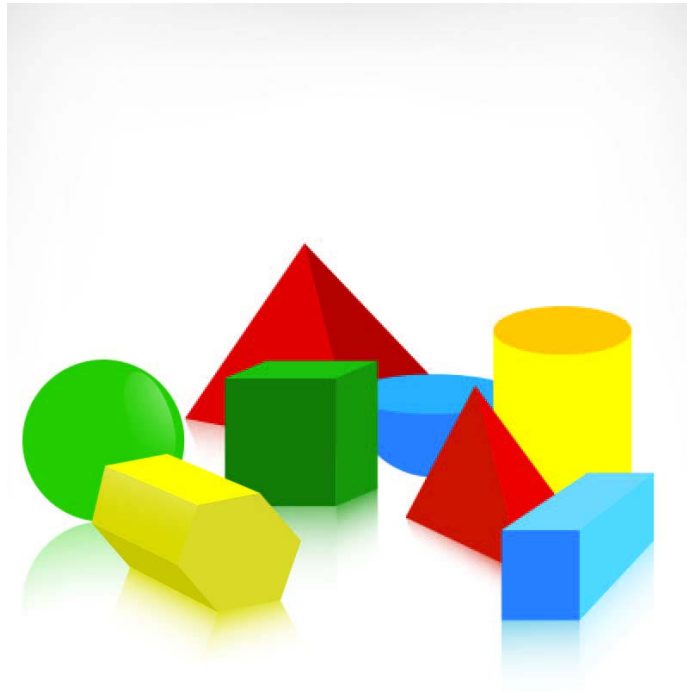


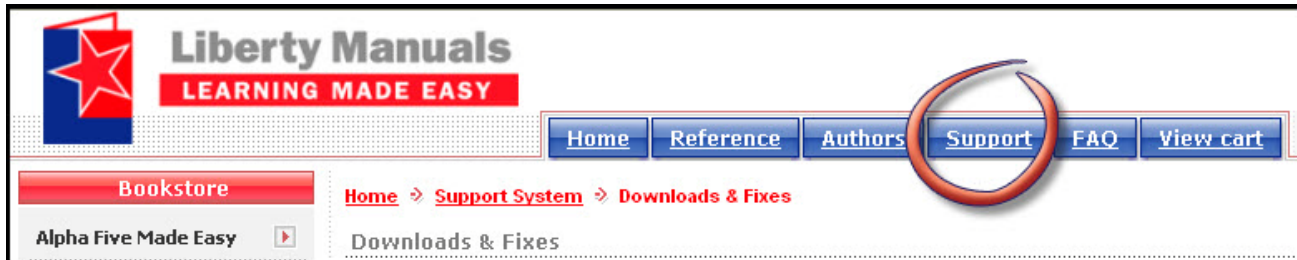
Chapter 1.

Learn the basics!



Just a few things to learn ...

And you'll be running a script in no time at all.



Support...

While every effort has been made to provide readers with a trouble free and accurate learning experience, some errors are bound to occur.

The support section of the website will publish corrections as they are discovered. We sug-

gest you visit it periodically to see if there are modifications. And please let us know if you find something. Your fellow readers will appreciate it!

Credit where it is due...

The material in this book was taken from the *Alpha Five Documentation Viewer* and *Video Finder*.

With the permission of Alpha Software, Inc., we have taken sections from various documents and edited them for this book. The tutorial "Learning Xbasic," has been used almost in its entirety. We have also added information from many other pages and videos as noted in the text.

In some cases *Documentation Viewer* content has been quoted directly, in others we have modified the copy. In all cases, the mission has been to convey the intent of the page.

The referenced pages often contain additional material. Be sure to review them carefully so that you have all the information necessary for successful scripts.

Thanks to Martin Heller, formerly of Alpha Software and now CEO of Tubifi, Inc., for reviewing the copy and providing valuable input.

Sample database

This tutorial uses the *Phone Messages* database (now called a workspace) included with Alpha Five. Instructions for opening it are on page 8.

Programming in Alpha Five

Out of the box, Alpha Five is a powerful environment for developing web and desktop applications that satisfy many data management needs without doing any programming at all. However, one of Alpha Five's greatest benefits is the ability to modify the genie created code and/or add your own custom code. For that, one uses Xbasic, Alpha Five's built-in programming language.

Due to its flexibility, Alpha Five is used by persons with a variety of skill levels. Some are professional developers with a wide range of programming proficiency. Others have little to no previous experience writing code.

This book will attempt to get the expert up to speed with Xbasic and introduce the new programmer to its benefits. We expect readers to be familiar with the use of Alpha Five on the desktop and/or web because coding is not the starting place for Alpha Five development. First, you need to be aware of the Rapid Application Development (RAD) features for users of all levels, be it desktop or web.* Then comes coding.

HOW RAD WORKS

Alpha Five uses Genies and Builders to create command sequences. After you answer a series of questions about what you need to do, Alpha Five figures out the best way to accomplish the task and runs it.

DESKTOP For example, Alpha Five includes an *Import Data Genie* that guides you through incorporating existing data from external files into an Alpha Five workspace.†

WEB A web example is the Grid Component builder. You establish certain connection criteria and then choose from the menu selections to develop a form (Grid) that can be used on the web.

WANT MORE?

Of course you do, that's why you bought this book! The Genies and Builders, coupled with the automatically generated code enable you to do a lot. Hand coding gives you even more control and even more options.

- Learning Xbasic will provide you with the tools to do much more with Alpha Five.
- Mastering Xbasic will open up vast new opportunities for you to create highly customized applications. It will allow you to manipulate the data however you wish.
- On the web side, SQL and JavaScript also come into play. We'll talk about them more when we get there.

Xbasic is a very rich programming language with thousands of commands. Fortunately, there is an extensive help system built into Alpha Five. We will give you tips on using it in Chapter 8.

*. To learn more about using Alpha Five on the desktop or web, go to www.libertymanuals.com.

†. In Version 11 and later, Alpha Five refers to its "databases" as workspaces. This term is more accurate since the product is so extensive. The term "database" is still used when referring SQL and other remote databases.

We repeat! Don't start here! This book should NOT begin your experience with Alpha Five. Before beginning these exercises, you should have a good working knowledge of Alpha Five. Programming is designed to enhance the RAD features, not replace them. At a minimum, you should know the following (we hope you know much more):

DESKTOP If you are working on the desktop, you should know how to create tables, sets, forms, browses and reports. You should know how to add buttons to your forms.

WEB If you are using Alpha Five for web applications, you should know how to create Grid and Dialog Components as well as .A5W pages. You should be familiar with Grid, Search and Detail View parts. You should know how to add buttons to your grids.

Xbasic is similar to Visual Basic

Xbasic is Alpha Five's programming language for the desktop and web. It is quite similar to Microsoft's Visual Basic and shares many of its language elements and functions, however, Xbasic has many additional and different features. Many commonplace tasks that would take many lines of code in another language take only a single line of Xbasic.

Xbasic is a derivative of the original BASIC programming language. The core of Xbasic contains the original set of command statements that allowed you to create variables, do calculations, write to the screen, print, and much more. Xbasic has expanded far beyond the original BASIC core language to include thousands of functions and methods that make the process of working with tables, records and reports much easier and the development of applications much faster.*

COMING UP

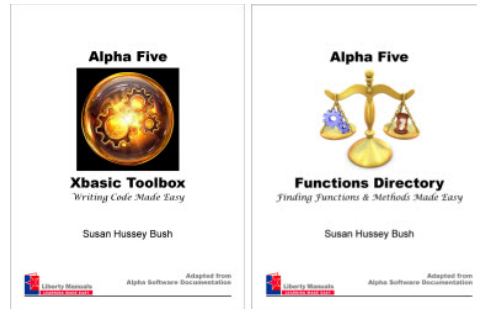
In the coming sections, we will introduce you to variables, storage, commands, functions, expressions, scripts, objects, events, and programmatic flow control. If you are new to programming, you will be glad to know that Xbasic makes this easier than you might think!

Get some support

And when you do need help, you can take advantage of the Alpha Five Message Board where you will find fellow developers standing by to answer questions on writing scripts for specific situations (see page 253).

*. Alpha Five Documentation: Page name: *Understanding the Programming Process*.

Get the Set



If you don't already have a copy, be sure to get the *Alpha Five Functions Directory, Finding Functions & Methods Made Easy* by Susan Hussey Bush.*

You will find this listing of the Alpha Five functions and methods a valuable reference when developing your applications.

Understanding basic terminology

Before we move on, there are some basic terms that we all need to understand because we will use them frequently in the rest of the book.

SCRIPT

A script is a text file containing valid (syntactically correct) Xbasic commands that Alpha Five processes and executes.

EVENTS

Alpha Five is an event driven program. Events contain Xbasic commands just like scripts, but they are already named and associated with specific Alpha Five elements.

DESKTOP

For example, a button control on a form has an Event called **OnPush**, named for the action that occurs when you push the button. Adding code, either manually or with *Action Scripting* (see below) tells Alpha Five what to do.

WEB

On the web, buttons are defined with an **onClick** event. In this case, you can use another Alpha Five feature called *Action JavaScript* (see below) and/or define code manually.

CODE TAB

Saved scripts and custom functions for both desktop and web appear at the Code tab of the **main Alpha Five Control Panel**.

The screen shot at right shows scripts from the sample workspace that we will use in the upcoming exercises.

Name	Type	Library
Chng Msgs Dsply Ord	Script	c:\users\susan\documents
Choose Msg Receiver	Script	c:\users\susan\documents
FormScopeTest	Script	c:\users\susan\documents
fullfamilyname	Function	c:\users\susan\documents
fullformalname	Function	c:\users\susan\documents
fullname	Function	c:\users\susan\documents
Function1	Script	c:\users\susan\documents
getfullname	Function	c:\users\susan\documents
gettimehourstring	Function	c:\users\susan\documents
It's For You	Bitmap	c:\users\susan\documents
Load Last Person	Script	c:\users\susan\documents

LIBRARIES

You can save your Scripts and other code elements in libraries.

DESKTOP

The Alpha Five Code Library is a repository where you can locate scripts or portions of scripts that are useful across different areas in the workspace.

*. Available at www.libertymanuals.com.

DESKTOP & WEB You can compile custom functions into a library that is called automatically when the application is run. This is called the AEX library.

ACTION SCRIPTING

DESKTOP Action Scripting consists of Alpha Five Genies that ask you what you want to accomplish and then create scripts automatically. You can modify the code to tweak it in just the way you want, but you save the time and effort of starting from scratch.

WEB While it is used less on the web, you will find it there, too.

ACTION JAVASCRIPT

WEB Developing code for web components is a bit more complex than for the desktop for reasons that we will explain in Chapter 6. For now, you just need to understand that Action JavaScript contains predefined commands that will make code development a lot easier.

DESKTOP Can be used in Xdialog (see below).

XDIALOG

DESKTOP Dialog boxes allow you to give and/or get input from the end user. Xdialog is Alpha Five’s programming language that allows you to design complex dialogs that would be the envy of any C programmer.*

WEB While the web side doesn’t use Xdialog, it has the Dialog Component, another Alpha Five wonder that gets more powerful with each release.

Understanding script syntax

A script is composed of a sequence or listing of Xbasic commands that cause Alpha Five to perform certain tasks. The rules governing the behavior of the system is called its syntax. For example, here is an Xbasic command that opens a form or a grid:

DESKTOP Opens a Form in View mode.

`Form.View("Administration")`

WEB Opens a Grid Component.

`tmpl.ComponentName = "MyCustomerGrid"`

XBASIC COMMANDS

The first words, including the period, are Xbasic commands.

COMMAND PARAMETER

Next comes the information necessary for the Xbasic command to perform its task. This data is called a command parameter. A command can have multiple parameters.

*. We will create simple dialogs in the upcoming exercises. To learn Xdialog, we suggest the tutorial that can be found in the Alpha Five Documentation. Filter: Enter Xdialog. Got to Table of Contents tab > Tutorials > Learning Xdialog (desktop).

- DESKTOP
- **Name of Form: (“Administration”)** Within the parenthesis you specify information necessary for the Xbasic command to perform its task. This data is called a command parameter.
- WEB
- **Name of component: = “MyCustomerGrid”** The equals sign followed by the component name in double quotes.*

Here’s what would happen in the above desktop example.

- The first word in this command is *Form* which tells Alpha Five you want to do something with a Form.
- Next comes a *period* and then the word *View*.
 - *View* signifies that you want a form to be displayed or viewed on the screen.
- Finally, in the parentheses, you specify the *name of the form* that you want displayed. (This name must be enclosed in parentheses.) So, assuming that a form named *Administration* exists in the current workspace, Alpha Five will display that form on the screen.

If there are more commands in the script, Alpha Five will continue with the next command.

DESKTOP For example, after loading the form Administration you might want to display the last record in the table.

```
Administration.Fetch_Last()
```

WEB After you identify the name of the component, the next step is to tell Alpha Five its type.

```
tmpl.ComponentType = “Grid”
```

We can use these two commands together in an Xbasic script.

DESKTOP

```
Form.View(Administration)  
Administration.Fetch_Last()
```

WEB The same is true for web scripts.

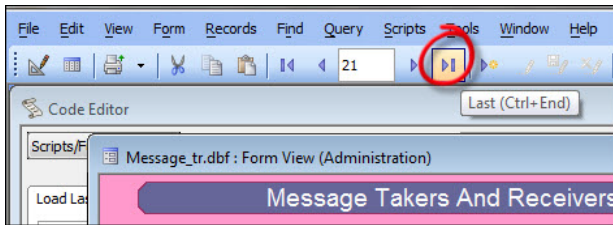
```
tmpl.ComponentName = “MyCustomerGrid”  
tmpl.ComponentType = “Grid”
```

Alpha Five uses Xbasic, too!

DESKTOP In the desktop example above, the commands might be saved in a script named [Load Last Person](#). The script could then be run anytime we wanted to display the last person using the *Administration* form.

The same thing can be accomplished by using menu options.

*. SQL users: Note that Xbasic uses double quotes for instances like this, rather than single quotes.



- a. Load the Administration form.
- b. Click the Last button to load the last record (red circle at left).

When you click on buttons like *Last*, Alpha Five is actually performing the same Xbasic commands that are in the [Load Last Person](#) script.

- Clicking the *Last* button executes the Xbasic command:

`CURRENT_FORM_NAME.Fetch_Last()`

It is easy to see that Alpha Five would replace `CURRENT_FORM_NAME` with the actual name of the Form, resulting in

`Administration.Fetch_Last()`

In fact, Xbasic is such a powerful language that most of the Alpha Five menu commands, buttons, and screens are themselves run by Xbasic commands and scripts. This means that the more Xbasic you learn, the more you can customize your applications to *look and perform just the way you want*.

WEB While things work differently for the web, the programming language is equally powerful, allowing you to customize your applications so they *look and perform just the way you want*.

Running a script

Next, we will put a script into action. For these examples, we will use a sample workspace included with Alpha Five. The menu choice is called *Learning Xbasic*, but the actual name of the workspace is *Phone Messages*.

This workspace is the foundation for the exercises in this book. Please be sure to do this section.

Using the sample workspace

The sample workspace is a desktop application, however the principles we discuss are, for the most part, applicable to both desktop and web. As we go along, we will identify material that applies specifically to the desktop or web sides. Everything else is valid for both workspaces.



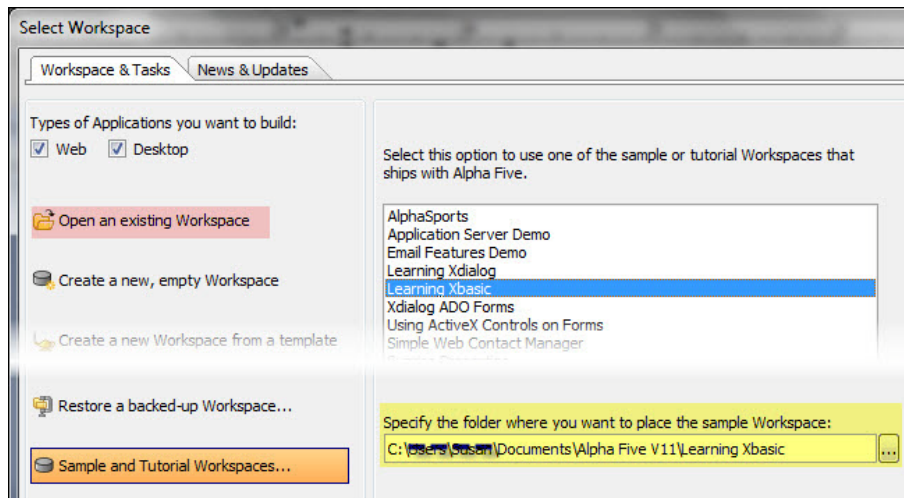
1. Open Alpha Five.
2. Click the **Workspace and Tasks** tab.
 - If you do not see the dialog below, click *Recent Workspaces* on the toolbar.

SAMPLE & TUTORIAL WORKSPACES

Sample workspaces and applications are available for both desktop and web. We suggest you take a look at the list while you are here.



VERY IMPORTANT



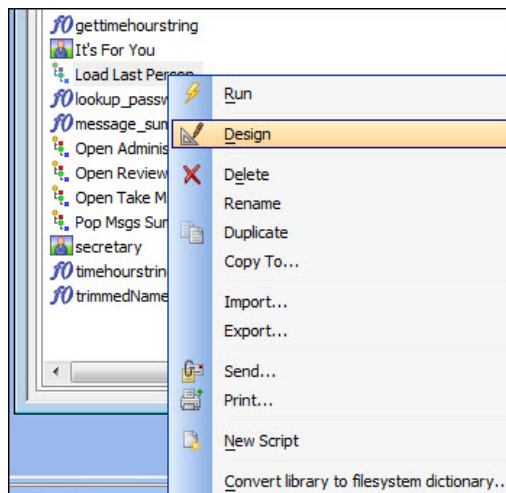
3. Click **Sample and Tutorial Workspaces...**

4. Choose **Learning Xbasic**.

5. **Specify the folder** where you want to place the sample Workspace (yellow).

6. Click OK to save and open a copy of the workspace.

- From here on in, this workspace will be referred to as **Phone Messages** and will appear as such in the list of existing workspaces (pink).



7. **Control Panel > Forms tab:** Verify that form **Administration** exists in this workspace.

8. Click the **Code** tab to see existing Xbasic scripts for the workspace.

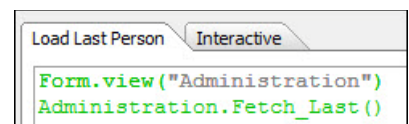
9. Choose **Load Last Person:** Right click > Design.

- Launches the Alpha Five Code Editor.

CODE EDITOR


The Alpha Five Code Editor is where you create Xbasic scripts by typing Xbasic commands on each line. It is much like a word processing program, but with quite different features. There are two tabs.

The active (foreground) tab shows the script you are currently editing. The name of the script appears in the tab. An asterisk after the name indicates the script has changes that have not yet been saved.



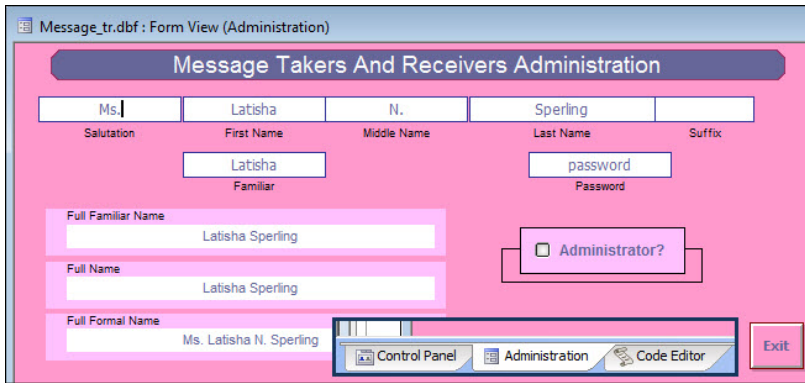
When you create a new script, the name will be `Untitled_#` (where # is a number, 1, 2, etc.). You name a new script when you save it.

The other tab is labeled *Interactive*. This is a special window where you can type and execute Xbasic commands interactively or at once line by line. Using the Interactive Window allows you to immediately test and see what Xbasic commands do (see page 13).

-  10. Click the **Run** button.

CHAPTER 1. LEARN THE BASICS!

Understanding the Code Editor



- The *Administration* form loads and the last record is fetched. The *primary index* for this table is **last name**, so the Fetch command loads the last record by that index.

HOW IT WORKS

Running a script means that Alpha Five runs or executes each of the commands in the script line by line.

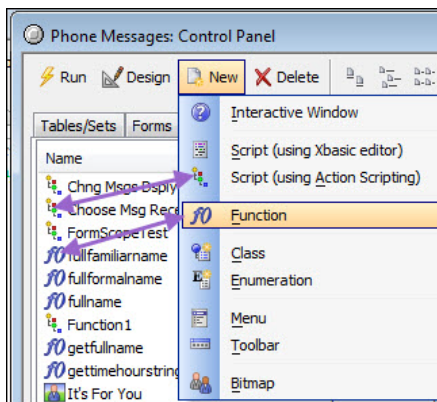
- Some commands will loop back and execute certain lines a number of times before proceeding.
- Other commands might extend over many lines of typed text but are treated, when entered correctly, as a single command.

MULTI-TASKING

Alpha Five can run multiple tasks at the same time. Above you see the *Administration form* loaded because you ran (executed) the Xbasic commands in the script.

The *Code Editor* is still running and still displays the active script(s). The *Control Panel* window is also running. All three of these active Alpha Five tasks are shown on the **Window Bar** near the bottom of the screen (inset above).

- To turn the Window bar on, go to Top Menu > View > Window Bar.



11. *Window Bar* > *Administration tab*: **Right click** > **Close**.
12. Click the **Window Bar** > **Code Editor** tab to switch back to the Code Editor.
13. Click the **Window Bar** > **Control Panel** tab.

CODE ICONS

Each of the code types has a unique icon (symbol).

14. *Control Panel* > *Code tab*: Click **New** to see the list of code options and their symbols.

Understanding the Code Editor

- This section continues from the previous one. The Load Last Person script should be open in the Code Editor. If that is not the case, please do the exercises in “Running a script” on page 8 because the Phone Messages workspace is the foundation for the exercises in this book.