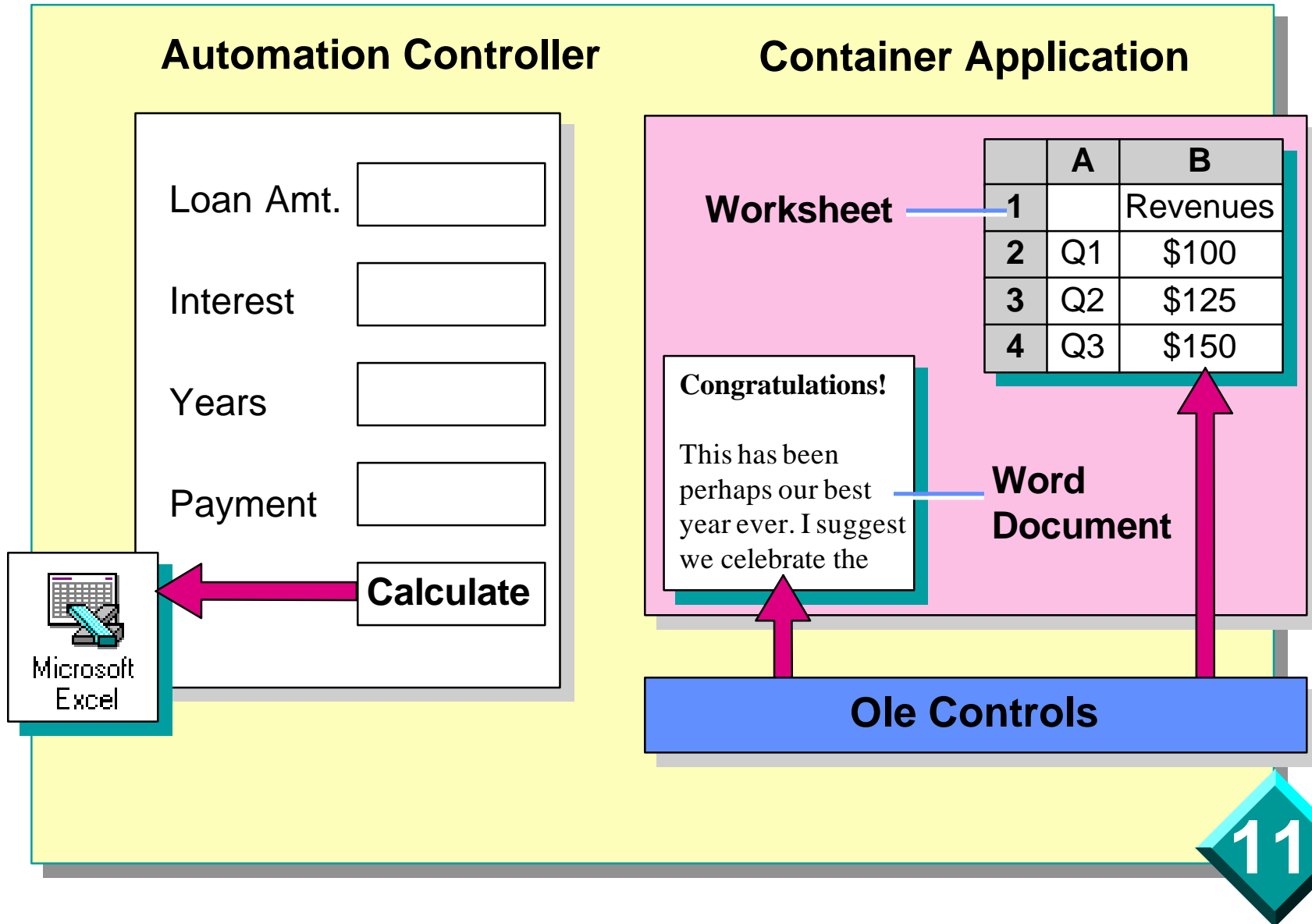# Module 11:
Object Linking and Embedding

11

◆ Overview

- **What Is Object Linking and Embedding?**

- **What OLE 2 Servers Are Available?**

- **What OLE2 Clients Are Available?**

- **OLE Automation**

- **Using the OLE Control**

  - Linking

  - Embedding

  - Programming

11

What is OLE?

Automation Controller

Loan Amt.

Interest

Years

Payment

Calculate

Microsoft Excel

Container Application

Worksheet

	A	B
1		Revenues
2	Q1	$100
3	Q2	$125
4	Q3	$150

Congratulations!

This has been perhaps our best year ever. I suggest we celebrate the

Word Document

Ole Controls

11

What OLE 2 Servers are Available?

- Microsoft Excel 5.0

- Microsoft Word for Windows 6.0

- Microsoft Project 4.0

- Future Releases of Other Main Microsoft Applications

- Applications From Third Parties

11

What OLE 2 Clients are Available?

- **Visual Basic 3.0**

- **Microsoft Excel 5.0**

- **Microsoft Access 2.0**

- **Microsoft Project 4.0**

- **Future Releases of Other Main Microsoft Applications**

- **Applications From Third Parties**

11

◆ OLE Automation

- Object Variables - Set

- GetObject

- CreateObject

- Visual Basic Controlling Microsoft Excel

- Visual Basic Controlling Microsoft Word for Windows

11

Set Statement

Syntax

Set *objectvar* = *application.objectname*[(*index*)]

Example

```
Dim xl as object

Set xl = CreateObject("Excel.Application.5")

xl.Workbooks.add  ' Adds a new workbook in Excel
```

11

CreateObject Function

- **Used With An Application That is Not Open**

Syntax

Set *objvar* = **CreateObject(***programID***)**

Example

```
Set MSWord = CreateObject("Word.Basic")
```

11

GetObject Function

- **Use to Get a File or Running Application as an Object**
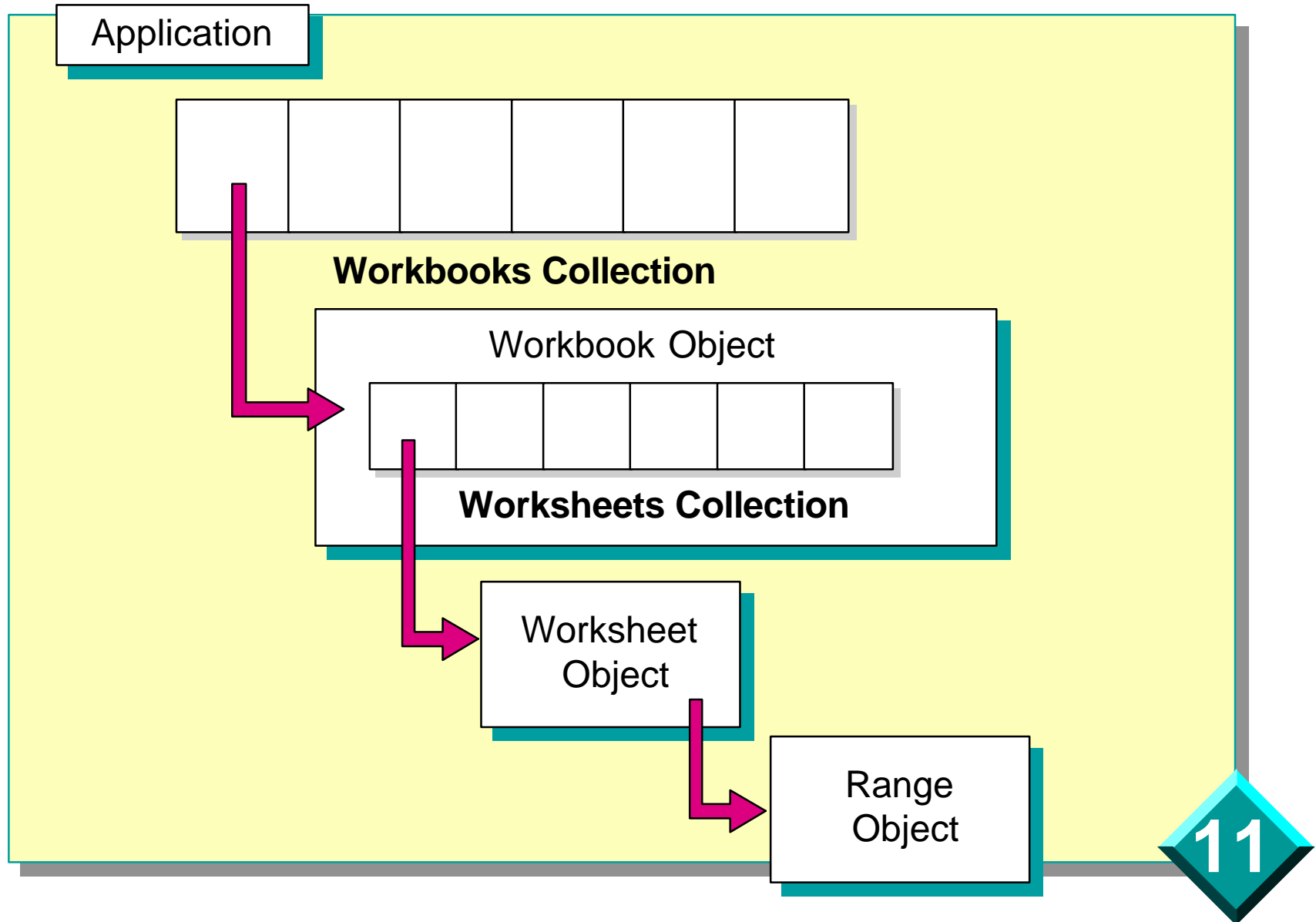
Syntax

Set *objvar* = **GetObject(***FileName*, *Class***)**

Example 1

```
Dim ActMSWord as Object

Set ActMSWord = GetObject("C:\REPORTS\Q1.DOC", _
    "Word.Basic")
```

Example 2

```
Dim Proj as Object

Set Proj=GetObject(, "MSProject.Project.4")
```

Microsoft Excel Objects

Application

Workbooks Collection

Workbook Object

Worksheets Collection

Worksheet Object

Range Object

11

Controlling Excel with Visual Basic

```
Dim xl As Object

Set xl = GetObject(,"Excel.Application.5")

'Use Excel Object to call VBA code

xl.Workbooks("book1.xls").Worksheets("sheet1") _

        .Activate

xl.Range("A1").value = 2
```

11

Recording Code in Microsoft Excel

- **Visual Basic for Applications Edition**

Versus

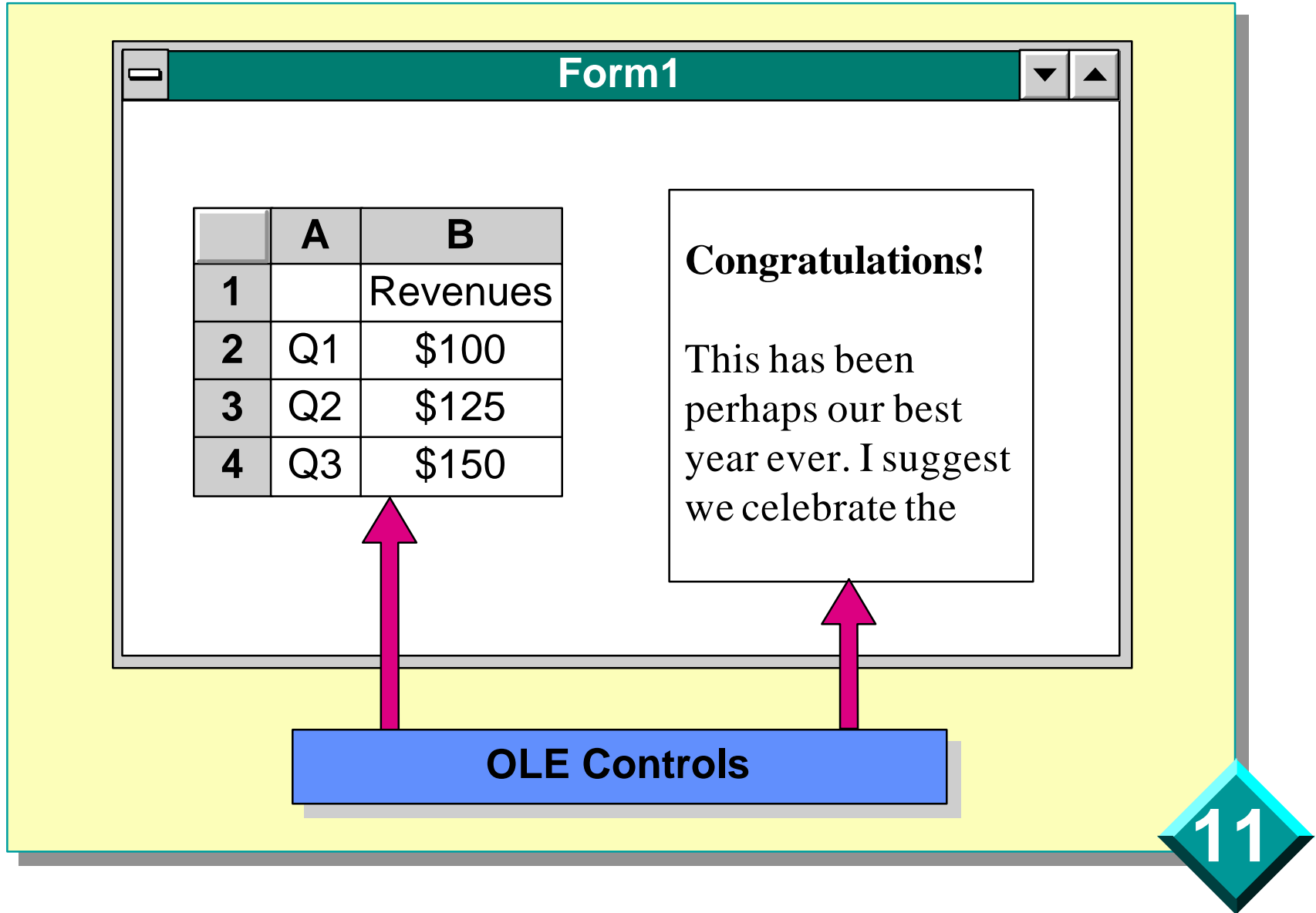- **Visual Basic Professional or Standard Editions**

11

Controlling Word with Visual Basic

```
Dim wd As Object

Set wd = CreateObject("Word.Basic")

'Use Word Basic statements as methods

wd.FileNewDefault

wd.FontSize 24

wd.Insert "Hello, world!"
```
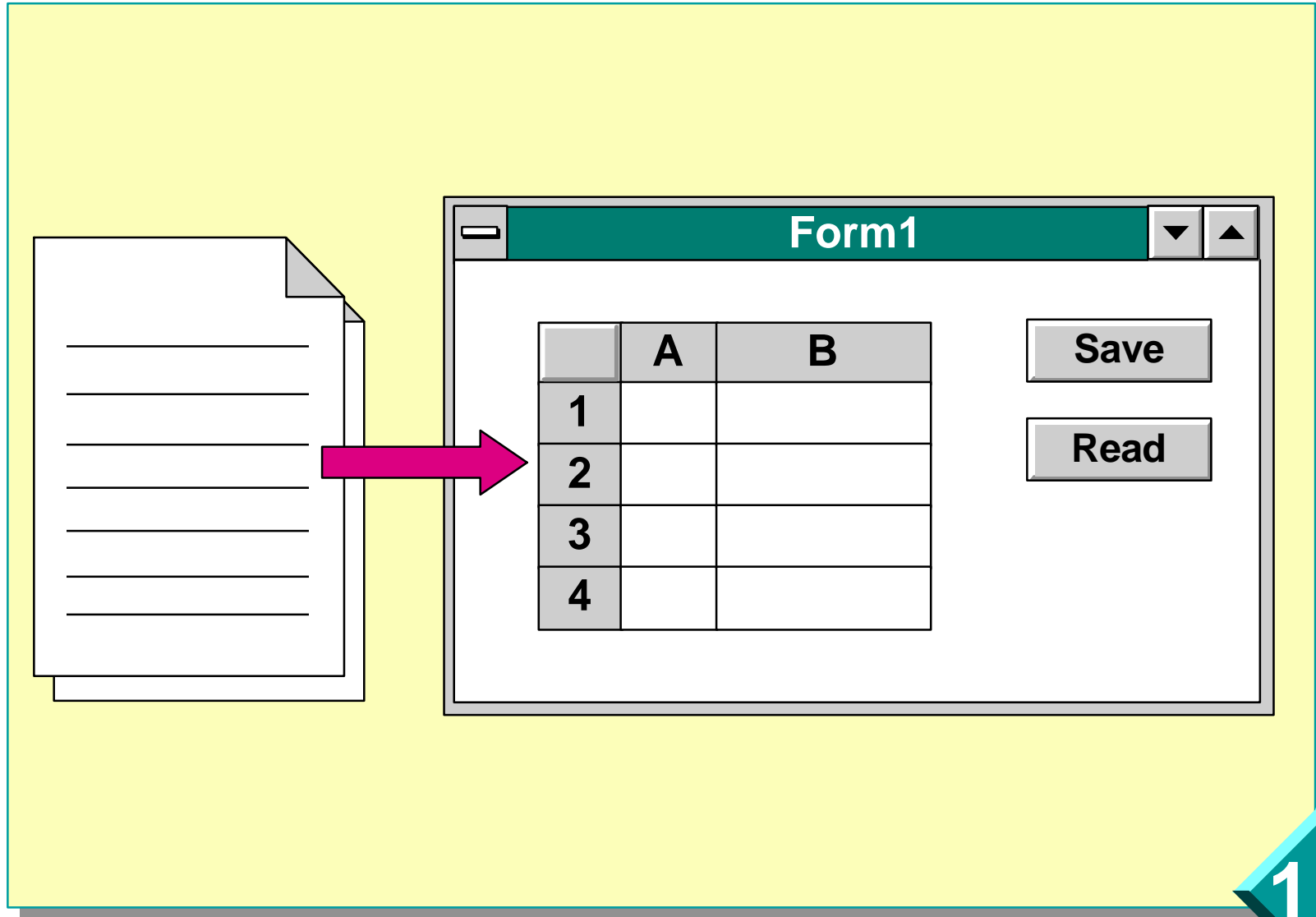
11

◆ Using the OLE Control

- Linking or Embedding

- Programming with the OLE Control
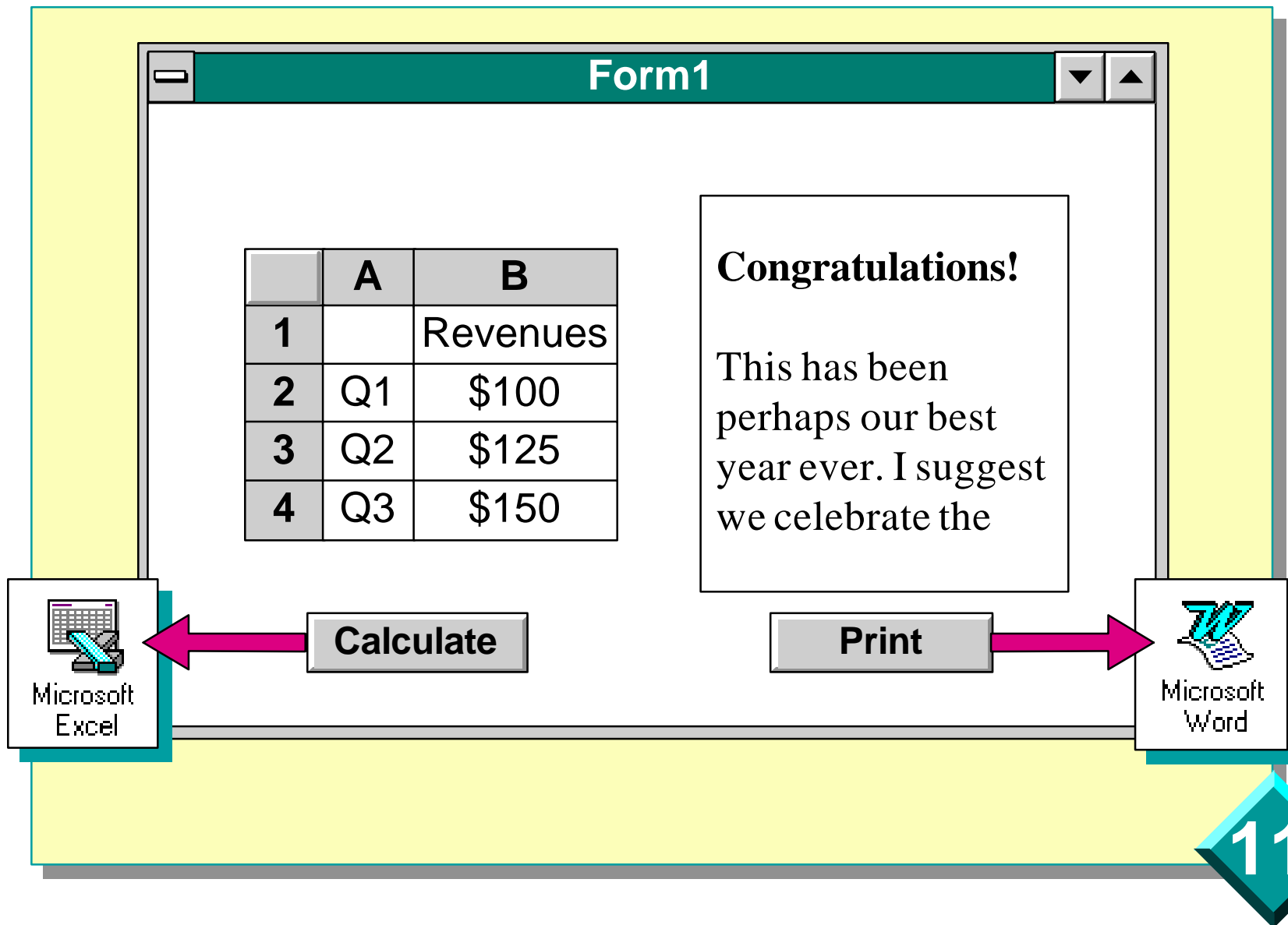
11

Linking or Embedding an Object

	A	B
1		Revenues
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OLE Controls

11

Saving and Reading an Embedded Object

Programming Using the OLE Control

Changing Ole Properties at Run Time

- **Class**   The application that created the object

- **OleType Allowed**   Type of object you can create (linked, embedded, or either)

- **SourceDoc**   Name of document to link to or to embed

- **SourceItem**   Data within SourceDoc (linked objects only)

- **Action**   Operation to perform on an OLE object

- **SizeMode**   How to size control.

- **DisplayType**   Display as icon or text

11

Summary

- **What Is Object Linking and Embedding?**

- **What OLE 2 Servers Are Available?**

- **OLE Automation**

- **Using the OLE Control**

  - Linking

  - Embedding

  - Programming

11

19

Lab Time