

## REVIEW LESSON

MTA Course: Windows Development Fundamentals

Lesson name: Windows Development Fundamentals 2.4B

Topic: Validate user input (One 50-minute class period)

File name: WinDevFund\_RL\_2.4B

### **Lesson Objective:**

**2.4:** Validate and implement user input. *This objective may include but is not limited to:* implementing the correct user input model based on application design and requirements; accepting keyboard and mouse input; validating user input through GUI controls such as text boxes and dialog controls.

### **Preparation Details**

#### **Prerequisite student experiences and knowledge**

This MTA Certification Exam Review lesson is written for students who have learned about Windows® application programming. Students who do not have the prerequisite knowledge and experiences cited in the objective will find additional learning opportunities using resources such as those listed in the Microsoft resources and Web links at the end of this review lesson.

#### **Instructor preparation activities**

- Make copies of the Student Activities.

#### **Resources, software, and additional files needed for this lesson:**

- WinDevFund\_CS\_2.4B
- WinDevFund\_VB\_2.4B
- WinDevFund\_PPT\_2.4B
- WinDevFund\_SA\_2.4B\_1
- WinDevFund\_SA\_2.4\_2

- WinDevFund\_SA\_2.4\_2\_Key
- Microsoft Visual Studio® 2008, or
  - Microsoft Visual Basic® 2008, Express Edition  
(<http://www.microsoft.com/express/downloads/#2008-Visual-Basic>)
  - Microsoft Visual C#® 2008, Express Edition  
(<http://www.microsoft.com/express/downloads/#2008-Visual-CS>)

### **Teaching Guide**

#### **Essential vocabulary:**

**input validation**—the process of verifying that input received from a user is correct.

**mask**—a string that specifies which characters can be entered at any given position in a *MaskedTextBox*.

**implicit validation**—validates data as the user enters it.

**explicit validation**—validates data at one time.

### **Lesson sequence**

#### **Activating prior knowledge/lesson staging (Anticipatory Set—10 minutes)**

1. *Student prompt (available in PowerPoint® file):* Direct students to look at each e-mail address and explain what (if anything) is wrong with each.
2. Help the students draw the conclusion that they expect to see certain characters, such as @ and a period, and that if any string is missing one or both elements, then we can quickly identify it as invalid.

#### **Lesson activity (20 minutes)**

1. Teacher Instruction
  - Using the Microsoft PowerPoint presentation, review input validation.
  - Give students a copy of the “Input Mask Reference” Student Activity and discuss the use of masks.

#### **Assessment/lesson reflection (25 minutes)**

1. Give students the “Input Validation Review” worksheet. In Part 1, they will answer questions about masks and validation. In Part 2, they will use Visual Studio to create a form with validated input.

**Microsoft resources and Web links**

**MSDN Library: User Input Validation in Windows Forms**

*(<http://msdn.microsoft.com/en-us/library/ms229603.aspx>)*

**MSDN Library: MaskedTextBox Class**

*(<http://msdn.microsoft.com/en-us/library/system.windows.forms.maskedtextbox.aspx>)*

**MSDN Library: Control.Validating Event**

*(<http://msdn.microsoft.com/en-us/library/system.windows.forms.control.validating.aspx>)*