

REVIEW LESSON

MTA Course: Software Development Fundamentals

Lesson name: Software Development Fundamentals 1.4

Topic: Understand error handling (One 50-minute class period)

File name: SoftDevFund_RL_1.4

Lesson Objective

1.4: Understand error handling. *This objective may include but is not limited to:* structured exception handling.

Preparation Details

Prerequisite student experiences and knowledge

Students should have had practice writing code to handle exceptions using the `try`, `catch`, `finally`, and `throw` keywords (C#). This MTA Certification Exam Review lesson is written for students who have learned about 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

None

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

- SoftDevFund_PPT_1.4
- SoftDevFund_SA_1.4
- SoftDevFund_SA_1.4_key

Teaching Guide

Essential Vocabulary:

exception—a problem or change in conditions that causes the microprocessor to stop what it is doing and handle the situation in a separate routine. An exception is similar to an interrupt; both refer the microprocessor to a separate set of instructions.

Lesson Sequence

Activating prior knowledge/lesson staging (10 minutes)

1. Show the Activator slide in the PowerPoint® presentation for this lesson. Ask students to explain the causes of the following exceptions. If they don't remember, give them hints.
 - a. `DivideByZeroException`
 - b. `IndexOutOfRangeException`
 - c. `NullReferenceException`
 - d. `StackOverflowException`

Lesson activity (25 minutes)

1. Show the PowerPoint presentation.
 - a. Review what an exception is.
 - b. Review common exceptions and their causes.
 - c. Review how to handle exceptions.
 - d. Review how to throw exceptions.

Assessment/lesson reflection (15 minutes)

1. Student Activity (SoftDevFund_SA_1.4)

Microsoft resources and Web links

Exceptions and Exception Handling (C# Programming Guide)

<http://msdn.microsoft.com/en-us/library/ms173160%28VS.80%29.aspx>

Suggested best practices:

- Make sure to emphasize the difference between a syntax error, a logic error, and an exception.