

STUDENT ACTIVITY 2.5_KEY: UNDERSTAND AND USE DIFFERENT DATA TYPES IN THE .NET FRAMEWORK

MTA Course: 10754 Microsoft .NET Fundamentals

Topic: Understand and use different data types in the .NET Framework

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Lesson Objective

2.5: Understand and use different data types in the Microsoft® .NET Framework. *This objective may include but is not limited to:* understanding intrinsic data types, values types, reference types, boxing, unboxing, and .NET collection classes.

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

- None

Directions to the student:

Answer the following questions. Verify your answers with the instructor.

For questions 1–6, identify each data type as either a **value type** or a **reference type**.

1. `byte` value type
2. `String` reference type
3. `char` value type
4. `int` value type
5. `Button` reference type
6. `bool` value type
7. `double` value type
8. Explain the difference between value types and reference types.

Answers will vary, but they should generally indicate that value types store an actual value, while reference types store a reference or pointer to the location where a value is stored.

9. How would you refer to the third member of the elements in an array named `phoneNumbers`?

Phone Numbers[2]

// Remember, because array indexes are zero-based, the first member is indexed 0, the second is 1,

// and the third is 2.

10. Data types specifically used for working with groups of related or similar data are called collections.