
Module 3 Data Types, Variables, and Constants

Lecture Integer Data Types

Module 3 Learning Objectives

Bloom Level	Number	Name	Description	Course Learning Objectives
3: Apply	1	Given Types	Develop a console application that uses specified data types	Basic Programming Concepts
3: Apply	2	Selected Types	Develop a console application that uses programmer-selected data types	Basic Programming Concepts
2: Understand	3	Data Type Comparison	Compare and contrast different C# data types	Basic Programming Concepts
3: Apply	4	Calculations	Develop a console application that uses variables and constants for calculations	Basic Programming Concepts

In this lecture, we'll discuss the various data types we use to represent integers in C#

Before we do, we make an important distinction between value types and reference types

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- Integers (no fractions or decimals)

- 0, 42, -11

- `byte`, `short`, `int`,
`long`

- Different number of bits in memory for each type

- What does that tell us?

- Operations are mostly as you'd expect (except for /)
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In-Lecture Quiz

In C#, if we add 1 to an `int` variable that currently has a value of 1, the new value of the variable is

- A: 5
 - B: 12
 - C: 2
 - D: -0
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In-Lecture Quiz

In C#, if we add 1 to an `int` variable that currently has a value of 2,147,483,647, the new value of the variable is

- A: 2,147,483,648
 - B: -2,147,483,648
 - C: 42
 - D: 2
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- Recap

- For the value types, the contents of the memory location are interpreted as the value of the variable
- C# provides a variety of data types for representing integers

- Next Time

- Real numbers
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