1. The Personal Profile (Basics)

Goal: Practice choosing the correct data type for common values.

The Challenge: Create a program that stores the following information about a user in variables and prints them to the console:

- Their **name** (text)
- Their **age** (whole number)
- Their **account balance** (decimal—think about precision!)
- Whether they have **premium access** (true/false)
- Their **middle initial** (single character)

Tip: Use string, int, decimal, bool, and char.

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2. The Arithmetic Mismatch (Implicit vs. Explicit)

Goal: Understand how C# handles different numeric types in math.

The Challenge: 1. Declare an integer int a = 10; and a double double b = 3.0;.

2. Try to store the result of a / b in an integer variable. Does it work?

3. Fix the code by storing the result in a double.

4. Now, perform 10 / 3 using only integers and notice the result. How do you get the decimal remainder?

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3. The Unit Converter (Constants & Math)

Goal: Learn how to use const and perform basic operations.

The Challenge: Create a Celsius to Fahrenheit converter.

1. Define a constant for the freezing point offset (32).
2. Take a double for Celsius.
3. Calculate Fahrenheit using the formula: $F = (C \times \frac{9}{5}) + 32$.
4. Output the result formatted to two decimal places.

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4. String Interpolation Party

Goal: Practice "String Interpolation," the modern way to build text.

The Challenge: 1. Create three variables: string product = "Laptop", int quantity = 3, and double price = 999.99.

2. Instead of using + to join strings (concatenation), use the $ sign and curly braces {} to print:

* *"You ordered 3 Laptops for a total of $2999.97."*

3. Bonus: Use a format specifier like {price:C} inside the braces to automatically format it as currency.

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5. The "Var" vs. The World

Goal: Understand type inference with the var keyword.

The Challenge:

1. Declare variables using var for a list of items: a name, a date (use DateTime.Now), and a scientific constant (like Pi).
2. Hover over the var keyword in your IDE (like Visual Studio or VS Code).
3. Identify what types the compiler inferred.
4. **Question:** Can you change the "name" variable to an integer later in the code? Try it and see what the compiler says.