Numerical Data Types

In C#, there are several ways of representing numerical data. Your usage of each will depend on your application. When choosing a data type, think about the following questions:

Do I need a whole number or do I need something that will represent a fraction, or a decimal? If I want to use a decimal, how precise do I need to be? Depending on your application, whether it's a hobby project or building a B2B financial services software, you'll need a different data type. Is performance a factor? Most times, choosing a data type that takes up less memory will result in faster applications.

Let's look at two data types that we can use to represent different numerical values:

Int

An *int* is a whole integer value, like 4, 100, or 2349. They're a good way to count units of things. For example, if we wanted to track the number of coin flips a user makes, we'd use an int. It doesn't make sense to have 0.5 coin flips!

To define a variable with the type `int`, you would write it as follows:

```
int variableName = 7;
```

Double and Decimal

If we need to use a decimal value, we have a few options: float, double, and decimal. These values are useful for anything that requires more precision than a whole number, like measuring the precise location of an object in 3D space.

A *double* is usually the best choice of the three because it is more precise than a `float`, but faster to process than a *decimal*. However, make sure to use a decimal for financial applications, since it is the most precise.

To define a variable with the type `double`, you would write it as follows:

```
double variableName = 39.76876;
```

To define a variable with the type `decimal`, you would write it as follows:

```
decimal variableName = 489872.76m;
```

Don't forget the `m` character after the number! This character tells C# that we're defining a decimal and not a double.

☑**Instructions**

1.
Several large pizza chains employ C# developers. Let's imagine that you work for the chain, Giant Brutus. Your boss gives you some data and wants you to enter it into a C# program.

The first value they give you is the number of pizza shops they own, which is 4332. Save this number to a variable named `pizzaShops`. Which data type should you use for the variable?

Hint

Use the `int` data type when saving whole numbers to a variable.

2.
The next value is the number of employees, which is 86,928. Save this number to the variable `totalEmployees`.

Hint

This variable is a whole number, so use the `int` data type.

3.
The total revenue for a single Big Brutus franchise store is 390,819.28. Save this number to the variable `revenue`.

Hint

Since this number has a decimal, a `double` or `decimal` data type is appropriate.

4.

Print the three variables to the console.

Hint

Use the `Console.WriteLine()` command to print items to the console.