# CITP 155 – Programming I

## Data Types Worksheet

## Graded Activity (20 points)

After reading the C# tutorial articles covering Data Types, respond to the following. Leave the questions in a black font. Enter your answers in a blue font.

The articles are found at the following links:

<https://csharp.net-tutorials.com/data-types/introduction/>  
<https://csharp.net-tutorials.com/data-types/booleans/>  
<https://csharp.net-tutorials.com/data-types/integers/>  
<https://csharp.net-tutorials.com/data-types/floating-points/>  
<https://csharp.net-tutorials.com/data-types/the-char-type/>  
<https://csharp.net-tutorials.com/data-types/strings/>  
<https://csharp.net-tutorials.com/data-types/working-with-dates-time/>  
<https://csharp.net-tutorials.com/data-types/nullable-types/>  
<https://csharp.net-tutorials.com/data-types/implicitly-typed-variables-the-var-keyword/>  
<https://csharp.net-tutorials.com/data-types/the-dynamic-type/>  
<https://csharp.net-tutorials.com/data-types/the-expandoobject/>  
<https://csharp.net-tutorials.com/data-types/anonymous-types/>

1. What values can a Boolean data type hold?

True or False.

1. What is the default value of a Boolean by default?

The default value is false.

1. What is an integer data type?

An integer data type is a number with no fractional part, or a whole number.

1. An Int16 can hold values between what two numbers?

-32,768 – 32,767

1. Why is dividing two integers probably not the best practice?

Since integers cannot contain any fractions, the result will be rounded. So it is not the most accurate way to get a calculation.

1. What is a floating point data type?

They are numbers that have fractional parts, usually with a decimal point.

1. What are three types of floating point data types?

Float, Double, Decimal.

1. What data type is the best for storing values of money (financial data)?

Decimal type is the best.

1. What does the char data type hold?

Chars hold a single, Unicode character.

1. According to the article, how many different Unicode characters are there?

There are more than 130,000 different Unicode characters. 143,859 according to the article’s wiki link.

1. What does a string data type hold?

They hold pieces of text, usually consisting of 2 or more characters.

1. What does it mean to concatenate strings and what character do you use to do this?

You “add” them, you can do this by using the plus operator (string name = “John” + “ “ + “Doe”; )

1. Using a DateTime object, what helping property retrieves the current date and time?

Using the .Now method will get the current date and time.

1. What format string command will produce a date in this format: **10.01.2020 12:45**?

"MM.dd.yyy HH:mm”

1. What does NULL mean?

It means nothing, used for variables that don’t yet hold any value.

1. Can an integer be NULL?

No integers have a default value, the integer default is 0.

1. What does the var keyword allow?

It allows you to declare a local variable, without explicitly stating the type.

1. What does the dynamic keyword allow?

They allow you to use variables which are not type-specific, instead they act as the kind of data which they hold.

1. What does the ExpandoObject allow?

It allows you to define objects on the fly and then add properties to it whenever you want to.

1. What do anonymous types allow?

They allow you to quickly instantiate an object with one or several properties.