# Exercise using different data-types

## Question 6-10 is due at the beginning of week 4 classes. (Submission procedure will the detailed in the lecture class)

The objective of these exercises is to read and display the five native data types (**`int`**, **`double`**, **`char`**, **`bool`** and **`string`**). Please note that some of the problems might not have an intelligent business purpose, but all that is necessary is to for you to read all of the five data type from user input from the keyboard and display program output to the console.

You are reminded about the coding practices that should be adhered to for this course regarding solution name, project name, identifiers and also pasting a copy of the problem at the top of your C# file.

You MUST use interpolated expression and where necessary format specifier.

> An interpolated string is a string literal that might contain *interpolated expressions i.e*. a value to be fetched or an expression to be evaluated.
> When an interpolated string is resolved to a result string, items with interpolated expressions are replaced by the string representations of the expression results.

1. Create a program that prompts the user for her first name, middle initial and last name. The program will display the user name three times using the following three formats:
   first name and last name
   first name middle initial and last name
   last name, first name and middle initial
   Example for inputs Barack H Obama
   Barack Obama
   Barack H Obama
   Obama, Barack H

> Remember to insert the dollar symbol ($) before your double quotes in the Console.Write/ WriteLine statement

2. Write a program that prompts the user for the number of siblings his has. The program should display a message, “I also have 4 siblings” (assuming that the user enters 4).

> In this question, you are not doing any arithmetic so you may use string type for the input.

3. Write a program that prompts the user for two integers. The program will display the result of summing and finding the difference. (If the user enters 8 and 3, the display should be 8 + 3 = 11 and 8

> Use the **`Convert.ToInt32()`** method to obtain an int from an input.

– 3 = 5).

4. Write a program that prompts the user for the number of siblings his has. The program should display a message, “I have 4 siblings” (assuming that the user enters 3). This question is not the same as question 2.

5. Write a program to prompt the user to enter a single character. The program should display a message like “Your response was y”. For this question, you must use a variable of type **`char`**.

> Use the **`Convert.ToChar()`** method to obtain a char from an input.

6. Write a program to ask the user about the validity of a simple statement. The program should accept the response then display the statement as well as the response. The response should be true or false. For this question, you must use a variable of type **`bool`**. It is useful to know that Convert.ToBoolean() can work with **`true`**, **`True`**, **`tRue`**, **`TRUE`** etc.

> Use the **`Convert.ToBoolean()`** method to obtain a bool from an input.

7. Write a program to calculate the area of a circle. The user will enter the radius of the circle and the program will calculate and display the area according to the formula (area = 3.14 * radius * radius). You must accept fractions as the input. If the user enters 1.2 for the radius then the area will be 4.52. (Use the **`"F"`** format-specifier for floating point values).

> Use the **`Convert.ToDouble()`** method to obtain a double from an input.

8. Write a program that prompts the user for a number (that may be a fraction). The program reads in the input and print the following: the input as a double, the input as an int and finally the input as a char.
e.g. if the input is **`65.790`**, then the output will be **`65.790`**, **`65`**, and **`A`**.

> Use the appropriate method of the Convert class

9. Adult ticket cost $3.75 and child ticket cost $2.25. Write a program to prompt the user for the amount of adult and child ticket that she needs. The program will display a user-friendly message of the number of tickets brought as well as the total cost. (Use the **`"C"`** format-string for currency).

10. Write a program to calculate and display the potential difference between the ends of a wire. The program will prompt the user for the current flowing and the resistance of the wire. Potential difference is the product of the current and the resistance of the wire and may include a fractional part. (Again, use the **`"F"`** format-specifier for floating point values).