

Exercise using different data-types

Assignment 2 – Due in Week 4

Once you are done with your programs, upload them to eCentennial under Assessments / Assignment / Assignment 2

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 for you to read from user input from the keyboard and display program output to the.

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*. 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. 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.

2. 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.

3. 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 ($\text{area} = 3.14 * \text{radius} * \text{radius}$). 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.

4. 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
5. 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).
6. 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).