

CSCI 1301 – Lab 24

October 30, 2019

1 Reading int from the user and converting them into char

1.1 Goal

The goal of our program is to convert integers given by the user into the corresponding character. Any number between 32 and 126 can be converted into a “human-readable”, or printable, character¹. “Control character”² exist, and correspond to the values between 0 and 31. However, they cannot be displayed at the screen and should be ignored.

Your program should ask again when the user enters a value outside the scope of printable characters, and display the corresponding character once given a proper value. As a bonus, you can try to make your whole program loop, so that the user would be given the possibility of converting multiple numbers without having to re-execute the program.

1.2 A Possible Solution

```
/*
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 * CSCI 1301 -- Review Session
 * This small program asks the user for an
 * integer, and converts it into a character
 * that is then displayed at the screen.
 * Note that invalid input is not processed.
 * Once the conversion is done, the user is asked
 * whenever they want to convert another integer.
 */

using System;

class Program
{
    public static void Main(string[] args)
    {
        string uistring; // To store the string entered by the user.
        int uiint; // To store user input once converted into an int.

        do // This first loop to allow the user to enter multiple values.
        {
```

¹https://en.wikipedia.org/wiki/ASCII#Printable_characters

²https://en.wikipedia.org/wiki/ASCII#Control_characters

```

        do // This loop to perform input validation.
        {
            Console.WriteLine("Enter a number between 32 and 126 to convert
↪ into a character.");
            /*
             * Any numer between 32 and 126 can be converted into a
             * "human-readable", or printable, character.
             * cf.
↪ https://en.wikipedia.org/wiki/ASCII#Printable_characters
             * "Control character" are also present, and correpond
             * to the values between 0 and 31. But they can not be
             * displayed at the screen.
             * Cf. https://en.wikipedia.org/wiki/ASCII#Control_characters
             */
            uistring = Console.ReadLine();
            int.TryParse(uistring, out uiint);
        }
        while (uiint < 32 || uiint > 126);
        /*
         * This previous test actually takes care of the case where
         * the user enter something that is not an int.
         * Indeed, if the user enters, say, "No", then
         * the TryParse method assign 0 to uiint, and
         * 0 makes this test true, hence asking for
         * another value.
         */

        /*
         * Outside the inner loop, we display the result of the
         * conversion and ask the user if they want to perform another
         * conversion.
         */
        Console.WriteLine($"The character corresponding to {uistring} is
↪ {(char)uiint}.");
        Console.WriteLine("Do you want to convert another integer?");
        Console.WriteLine("Enter \"Y\" for yes, anything else to exit.");
        while (Console.ReadLine() == "Y");
    }
}

```

You can also download this solution as a project³.

³IntFromUserToChar.zip