

# Introduction to Computer Programming

## 03. C# basics

### Exercises

When solving the exercises remember to make sure your program doesn't crash regardless of user's input.

1. Ask the user to give his first name, last name, street, house number, flat number, zip code, and city, and print it out in the following format.

```
Firstname Lastname  
St. Street Name 0/0  
Zip-Code City
```

**Hint** Use string interpolation.

2. Design a simple menu with the following options:
  - New game – print out New game and display menu again;
  - About the author – print out the information about the author and display menu again;
  - Quit – the program asks the user for confirmation. If the user confirms, the program quits. If the user doesn't confirm – the program returns back to menu.

**Hint** Use enumeration to process selected menu option.

**Hint** Use `Console.Clear()` to clear the console and redraw the menu.

3. Write a program with an Infinite loop, in which the program asks the user in every pass of the loop should it draw a next random number. If the user confirms, then the program draws a next random number and prints it to the console. If the user doesn't confirm – the program ends.

**Hint** Use an Infinite loop `while` with `break` instruction.

**Hint** Try to find on your own how to draw random numbers in C# on the internet.

4. Extend the tic-tac-toe game from the previous assignment and add a menu with the following options: a) New game, b) About the author, and c) Exit. Additionally, add a mechanism which will check the score of the game after each move. If one of the players won, the game should end with an appropriate message. An example run of the program is shown below.

```
1. New game
2. About the author
3. Exit
> 1
```

```
  |  |
---+---+---
  |  |
---+---+---
  |  |
X's move > 2
```

```
  | X |
---+---+---
  |  |
---+---+---
  |  |
O's move > 1
```

...

```
 0 | X |
---+---+---
 0 | X |
---+---+---
   | X |
X won!
[Press Enter to return to main menu...]
```

```
1. New game
2. About the author
3. Exit
> 3
```

```
Are you sure you want to quit? [y/n]
> y
```