# Exercises: C# Advanced Topics

This document defines in-class exercises from the ["C# Basics" Course @ Software University](http://softuni.bg/courses/csharp-basics/).

### Methods

## Printing Numbers

Write a method **PrintEvenNumbers()** that prints all even numbers in the given range (**inclusive**).

* The method should receive **minRange** and **maxRange** as arguments
* The method should **not return** a result

The numbers should be read from the console.

|  |  |
| --- | --- |
| **Input** | **Output** |
| **43**  **50** | **44**  **46**  **48**  **50** |

## Power

Write a method **Power()** that calculates the power of a given number.

* The method should receive a **number** and the **power** as arguments
* The method should return **double** as result

The input should be read from the console.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Input** | **Output** |  | **Input** | **Output** |
| **3**  **2** | **9** |  | **7.45**  **3** | **413.493625** |

Write an **overload method** with the **same name** that receives an **additional argument** - boolean value **roundDown**. If **roundDown** is **true**, the result should be **rounded down** to the nearest integer. Otherwise, return the original result.

### Arrays

## Integers

Create an array with 10 integers. Fill the **array** with **random integers** in the range **[0…100]**. Each **subsequent element** of the array should **add the previous element** to its **value**.

For example, if the randomly generated items are **0 1 2 3 4 5 6 7 8 9**, the elements in the array should be **0 1 3 6 10 15 21 28 36 45**.

## Text Modification

You are given a **string**. Go through **all letters** and if the letter's **ASCII code** divides by **3** **without** **remainder**, raise the letter to **upper case**.

|  |  |
| --- | --- |
| **Input** | **Output** |
| **you though this deer was real…nope, just chuck testa.** | **yOU thOUgh thIs deeR was ReaL...nOpe, jUst ChUCk testa.** |

## \* Bubble Sort

Write the bubble sort algorithm for **sorting** an **array of integers**. Create a method **BubbleSort()** and use it to sort arrays.

**See**: <http://en.wikipedia.org/wiki/Bubble_sort#/media/File:Bubble-sort-example-300px.gif>