**Exercise: Methods**

Problems for exercise and homework for the ["C# Fundamentals" course @ SoftUni](https://softuni.bg/modules/57/tech-module-4-0)  
You can check your solutions in [Judge](https://judge.softuni.bg/Contests/1209)

* **Smallest of Three Numbers**

Write a method to print the smallest of three integer numbers. Use appropriate name for the method.

**Examples**

|  |  |
| --- | --- |
| **Input** | **Output** |
| 2  5  3 | 2 |
| 600  342  123 | 123 |
| 25  21  4 | 4 |

* **Vowels Count**

Write a method that receives a single string and prints the count of the vowels. Use appropriate name for the method.

**Examples**

|  |  |
| --- | --- |
| **Input** | **Output** |
| SoftUni | 3 |
| Cats | 1 |
| JS | 0 |

* **Characters in Range**

Write a method that receives two characters and prints on a single line all the characters in between them according to ASCII.

**Examples**

|  |  |
| --- | --- |
| **Input** | **Output** |
| a  d | b c |
| #  : | $ % & ' ( ) \* + , - . / 0 1 2 3 4 5 6 7 8 9 |
| C  # | $ % & ' ( ) \* + , - . / 0 1 2 3 4 5 6 7 8 9 : ; < = > ? @ A B |

* **Password Validator**

Write a program that checks if a given password is valid. Password rules are:

* **6 – 10 characters (inclusive)**
* **Consists only of letters and digits**
* **Have at least 2 digits**

If a password is valid print "Password is valid". If it is not valid, for every unfulfilled rule print a message:

* **"Password must be between 6 and 10 characters"**
* **"Password must consist only of letters and digits"**
* **"Password must have at least 2 digits"**

**Examples**

|  |  |
| --- | --- |
| **Input** | **Output** |
| logIn | Password must be between 6 and 10 characters  Password must have at least 2 digits |
| MyPass123 | Password is valid |
| Pa$s$s | Password must consist only of letters and digits  Password must have at least 2 digits |

**Hints**

Write a method for each rule.

* **Add and Subtract**

You will receive 3 **integers.** Write a method **Sum** to get the sum of the first two integers and **Subtract** method that subtracts the third integer from the result from the Sum method.

**Examples**

|  |  |
| --- | --- |
| **Input** | **Output** |
| 23  6  10 | 19 |
| 1  17  30 | -12 |
| 42  58  100 | 0 |

* **Middle Characters**

You will receive a single string. Write a method that prints the middle character. If the length of the string is even there are two middle characters.

**Examples**

|  |  |
| --- | --- |
| **Input** | **Output** |
| aString | r |
| someText | eT |
| 3245 | 24 |

* **NxN Matrix**

Write a method that receives a single integer **N** and prints **NxN** matrix with that number.

**Examples**

|  |  |
| --- | --- |
| **Input** | **Output** |
| 3 | 3 3 3  3 3 3  3 3 3 |
| 7 | 7 7 7 7 7 7 7  7 7 7 7 7 7 7  7 7 7 7 7 7 7  7 7 7 7 7 7 7  7 7 7 7 7 7 7  7 7 7 7 7 7 7  7 7 7 7 7 7 7 |
| 2 | 2 2  2 2 |

* **Factorial Division**

Read two integer numbers. Calculate [factorial](https://en.wikipedia.org/wiki/Factorial) of each number. Divide the first result by the second and print the division formatted to the second decimal point.

**Examples**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Input** | **Output** |  | **Input** | **Output** |
| 5  2 | 60.00 |  | 6  2 | 360.00 |

* **Palindrome Integers**

A palindrome is a number which reads the same backward as forward, such as 323 or 1001. Write a program which reads a positive integer numbers until you receive "**End**", for each number print whether the number is palindrome or not.

**Examples**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Input** | **Output** |  | **Input** | **Output** |
| 123  323  421  121  END | false  true  false  true |  | 32  2  232  1010  END | false  true  true  false |