# Exercise: Methods

Test your tasks in the Judge system: <https://alpha.judge.softuni.org/contests/methods-exercise/4422>

## Vowels Count

Write a program that:

* Read a **text (string)** from the console
* Create a method that receives a **text**
* Find the **count of the vowels** contained in the text
* Print the **count of the vowels** in the text

### **Example**

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

## Factorial Division

Write a program that:

* Read **two integers** numbers from the console **in range [1…10]**
* Calculate the [**factorial**](https://en.wikipedia.org/wiki/Factorial) of each number
* Dividethe **first calculated factorial** by the **second calculated factorial** (integer division)
* Print the result of the division

### **Example**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Input** | **Output** |  | **Input** | **Output** |
| 5  2 | 60 |  | 6  2 | 360 |

## Multiplication Sign

Write a program that:

* Reads **three integer numbers** (num1, num2 and num3) from the console
* Finds if num1 \* num2 \* num3 (the product) is **negative**, **positive or zero**
* Print:
  + **negative** - if the product is smaller than 0
  + **positive** - if the product is bigger than 0
  + **zero** - if the product is equals to 0

**Note**: Try to do this **WITHOUT** multiplying the three numbers.

### **Example**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Input** | **Output** |  | **Input** | **Output** |  | **Input** | **Output** |
| 2  3  -1 | negative | 2  3  1 | positive | 7  0  1 | zero |

## Password Validator

Write a program that checks if a given password is **valid**.

The password validation **rules** are:

* It should contain **6 – 10 characters (inclusive)**
* It should contain **only letters and digits**
* It should contain **at least 2 digits**

If it is **not valid**, for any unfulfilled rule **print the corresponding message**:

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

### **Exaзmple**

|  |  |
| --- | --- |
| **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 |

## Multiply Evens by Odds

Write a program that **multiplies the sum** of **all even digits** of a number **by the sum of all odd digits** of the same number:

* Read **an integer number** from the console
* Create a method called **GetMultipleOfEvenAndOdds()**
* Create a method **GetSumOfEvenDigits()**
* Create **GetSumOfOddDigits()**
* You may need to use **Math.Abs()** for negative numbers

### **Example**

|  |  |  |
| --- | --- | --- |
| **Input** | **Output** | **Comment** |
| -12345 | 54 | Evens: 2 4  Odds: 1 3 5  Even sum: 6  Odd sum: 9  6 \* 9 = 54 |

|  |  |  |
| --- | --- | --- |
| **Input** | **Output** | **Comment** |
| 3453466 | 220 | Evens: 4 4 6 6  Odds: 3 5 3  Even sum: 20  Odd sum: 11  20 \* 11 = 220 |

## Orders

Write a program that:

* Reads a **string** on the first line from the console, representing a **product**:

"**coffee**", "**water**", "**coke**" or "**snacks**"

* Reads an **integer** on the second line from the console, representing the **quantity** of the product
* Create a method that calculates and prints the total price of an order
* The method should receive two parameters: **product** and **quantity**
* The prices for a single item of each product are:
* **coffee – 1.50**
* **water – 1.00**
* **coke – 1.40**
* **snacks – 2.00**
* Print the result, **formatted to the second digit**

### **Example**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Input** | **Output** |  | **Input** | **Output** |  | **Input** | **Output** |
| water  5 | 5.00 | coffee  2 | 3.00 | snacks  6 | 12.00 |