# More Exercise: JavaScript Syntax and Operators

Problems for in-class lab for the [“JavaScript Fundamentals” course @ SoftUni](https://softuni.bg/trainings/2080/js-fundamentals-september-2018)…TODO. Submit your solutions in the SoftUni judge system at [https://judge.softuni.bg/Contests/287/ TODO.](https://judge.softuni.bg/Contests/287/%20%20TODO.)

## Daily Calorie Intake

Write a JS function that calculates your daily calorie intake.

All you need is a **person's sex, weight, height, age and active factor**.

First, you need to calculate the **basic metabolism** of a person. Depending on the gender of the person, use one of the two formulas given below:

**Calories (man) = 66 + 13.8 \* weight + 5 \* height - 6.8 \* age**

**Calories (woman) = 655 + 9.7 \* weight + 1.85 \* height - 4.7 \* age**

After that, you should calculate the weekly activity:

* if a person does not exercise during the week, the active factor (AF) is **1.2;**
* for 1 or 2 workouts per week, AF = **1.375**;
* between 3 and 5 workouts per week, AF = **1.55**;
* 6 or 7 workouts per week, AF = **1.725**;
* for workouts that are more than 7 per week, AF = **1.90**.

The multiplication of AF and the calorie consumed by basic metabolism gives you the daily calorie intake.

Print the following text on the console: **'My calorie intake is {calories}'** . Print the calories rounded to the **nearest integer**.

### Input

The **input** comes as two arguments passed to your function. The first argument is an **array that contains the person data – sex, weight, height, age**. The second argument is a **number that represents the workouts** for that person.

The **output** should be printed on the console.

### Examples

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Input** | **Output** |  | **Input** | **Output** |
| ['f', 46, 157, 32], 5 | 1924 |  | ['m', 86, 185, 25], 3 | 3112 |

## Unique numbers

You will receive three integer arrays. Write a JS function to find the **unique** elements from the three arrays. Save the unique numbers in a new array and calculate the **average** and the **median** of it.

Print on the console:

* **'The unique elements are {array}.'** – sort the array in ascending order.
* **'Average: {number}'**
* **'Median: {number}'**

### Input

The **input** comes as three integer arrays.

The **output** should be printed to the console.

|  |  |
| --- | --- |
| **Input** | **Output** |
| [5, 6, 50, 10, 1, 2],  [5, 4, 8, 50, 2, 10],  [5, 2, 50] | The unique elements are 2, 5, 50.  Average: 19.  Median: 5. |

|  |  |
| --- | --- |
| **Input** | **Output** |
| [1, 2, 3, 4, 5],  [3, 2, 1, 5, 8],  [2, 5, 3, 1, 16] | The unique elements are 1, 2, 3, 5.  Average: 2.75.  Median: 2.5. |

## Humanized Number

You will receive a text as an input. The text will be a **string** and it can contain **dots, commas and blank spaces**. Write a JS function that **finds all numbers** in the text and humanizes them (Formats a number to a human – readable string) by adding a correct suffix such as **1st, 2nd, 3rd or 4th**. Print each number on a separate line.

### Input

The **input** comes as a number passed to your function.

The **output** should be printed to the console.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Input** | **Output** |  | **Input** | **Output** |
| 'The school has 256 students. In each class there are 26 chairs, 13 desks and 1 board.' | 256th  26th  13th  1st |  | 'Yesterday I bought 12 pounds of peppers, 3 kilograms of carrots and 5 kilograms of tomatoes.' | 12th  3rd  5th |

## Perfect Number

Write a JS function to find the **perfect number/numbers** in an **array of numbers**. A perfect number is a **positive integer** that is **equal to the sum of its proper positive divisors**, **excluding the number itself** (also known as its aliquot sum). Equivalently, a perfect number is a number that **is half the sum of all of its positive divisors (including itself).**

Example: Perfect number is 6, because 1, 2, and 3 are its proper positive divisors, and **1 + 2 + 3 = 6**. Equivalently, the number 6 is equal to half the sum of all its positive divisors: (**1 + 2 + 3 + 6) / 2 = 6.**

### Input

The **input** comes as a number array passed to your function.

The **output** should be printed to the console. Print the elements on a single line, separated by a **comma and a single space**. In case of **no perfect numbers** in the array, just print **'No perfect number'**.

### Examples

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Input** | **Output** |  | **Input** | **Output** |
| [5, 6, 28] | 6, 28 |  | [5, 32, 82] | No perfect number |

## Converter to Coins

Write a JS function to **convert** a given number into coins.The input comes as **two arguments** passed to your function. The first argument is an **integer** number – the amount you want to convert into coins. The second argument is an integer **array** of coin values. First, you need to **order the array in descending order** because you want to start converting from the largest coins.

**Example:** If the amount is **57** and you have **[25, 10, 5, 1]** coins, after conversion you have to receive **two 25** cent coins, **one 5** cent coin and **two 1** cent coins.

### Input

The input comes as **two arguments** passed to your function.

The **output** should be printed to the console. Print the elements on a single line, separated by a **comma and a single space**.

### Examples

|  |  |
| --- | --- |
| **Input** | **Output** |
| 46, [10, 25, 5, 1, 2] | 25, 10, 10, 1 |

|  |  |
| --- | --- |
| **Input** | **Output** |
| 123, [5, 50, 2, 1, 10] | 50, 50, 10, 10, 2, 1 |