

# Exercise: Syntax, Functions and Statements

Problems for in-class lab for the ["JavaScript Advanced" course @ SoftUni](https://judge.softuni.bg/Contests/2750/Exercise-Syntax-Functions-and-Statements). Submit your solutions in the SoftUni judge system at <https://judge.softuni.bg/Contests/2750/Exercise-Syntax-Functions-and-Statements>

## 1. Fruit

Write a function that calculates how much money you need to buy fruit. You will receive a **string** for the type of fruit you want to buy, a **number** for weight in **grams**, and another **number** for the price per **kilogram**.

Print the following text on the console:

```
`I need ${money} to buy {weight} kilograms {fruit}.`
```

Print the weight and the money **rounded** to two decimal places.

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

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

### Examples

Input	Output
'orange', 2500, 1.80	I need \$4.50 to buy 2.50 kilograms orange.

Input	Output
'apple', 1563, 2.35	I need \$3.67 to buy 1.56 kilograms apple.

## 2. Greatest Common Divisor - GCD

Write a function that takes **two positive numbers** as input and compute the greatest common divisor.

The **input** comes as **two positive integer numbers**.

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

### Examples

Input	Output
15, 5	5

Input	Output
2154, 458	2

## 3. Same Numbers

Write a function that takes **an integer number** as an input and check if all the digits in a given number are the same or not.

Print on the console **true** if all numbers are the same and **false** if not. On the next line print the **sum of all digits**.

The **input** comes as an integer number.

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

### Examples

Input	Output
2222222	true

Input	Output
1234	false

	14
--	----

	10
--	----

## 4. Previous Day

Write a JS function that calculates the **date** of the **previous day** by given year, month, and day.

The input comes as three numeric parameters. The first element is the year, the second is the month and the third is the day.

The output must be the return date of the previous day in the format: ``{year}-{month}-{day}``

### Examples

Input	Output
2016, 9, 30	2016-9-29
2016, 10, 1	2016-9-30

### Hints

- Use `Date()`

## 5. Time to Walk

Write a function that **calculates** how long it takes a student to get to university.

The function takes **three numbers**:

- The **first** is the number of **steps** the student takes from their home to the university
- The **second** number is the length of the student's footprint in **meters**
- The **third** number is the student speed in **km/h**

Every 500 meters the student rests and takes a **1-minute break**.

Calculate how long the student walks from home to university and print on the console the result in the following format: ``hours:minutes:seconds``.

The **input** comes as **three numbers**.

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

### Examples

Input	Output
4000, 0.60, 5	00:32:48

Input	Output
2564, 0.70, 5.5	00:22:35

## 6. Road Radar

Write a function that determines whether a driver is within the speed limit. You will receive the speed and the area. Each area has a different limit:

- On the **motorway**, the limit is **130 km/h**
- On the **interstate**, the limit is **90 km/h**
- In the **city**, the limit is **50 km/h**
- Within a **residential** area, the limit is **20 km/h**

If the driver is **within the limits**, there should be a printed speed and the speed limit.

``Driving {speed} km/h in a {speed limit} zone``

If the driver is **over the limit**, however, your function should print the severity of the infraction and the difference in speeds.

``The speed is {difference} km/h faster than the allowed speed of {speed limit} - {status}``

For speeding up to **20** km/h over the limit, the **status** should be **speeding**.

For speeding up to **40** km/h over the limit, the **status** should be **excessive speeding**.

For anything else, **status** should be **reckless driving**.

The **input** comes as **2 string parameters**. The first element is the current speed (**number**), the second element is the area.

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

## Examples

Input	Output
40, 'city'	Driving 40 km/h in a 50 zone
21, 'residential'	The speed is 1 km/h faster than the allowed speed of 20 - speeding
120, 'interstate'	The speed is 30 km/h faster than the allowed speed of 90 - excessive speeding
200, 'motorway'	The speed is 70 km/h faster than the allowed speed of 130 - reckless driving

## 7. Cooking by Numbers

Write a program that receives 6 parameters which are a **number** and a **list** of five operations. Perform the operations **sequentially** by starting with the **input number** and using the result of every operation as a starting point for the next one. Print the result of every operation in order. The operations can be one of the following:

- **chop** - divide the number by two
- **dice** - square root of a number
- **spice** - add 1 to the number
- **bake** - multiply number by 3
- **fillet** - subtract 20% from the number

The **input** comes as **6 string elements**. The first element is the starting point and must be **parsed** to a number. The remaining 5 elements are the names of the operations to be performed.

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

## Examples

Input	Output
'32', 'chop', 'chop', 'chop', 'chop', 'chop'	16 8 4 2 1

Input	Output
'9', 'dice', 'spice', 'chop', 'bake', 'fillet'	3 4 2 6 4.8

## 8. Validity Checker

Write a program that receives a total of 4 parameters in the format **x1, y1, x2, y2**. Check if the distance between each point (**x, y**) and the beginning of the Cartesian coordinate system (**0, 0**) is **valid**. A distance between two points is considered **valid** if it is an **integer value**.

**Note:** You can use the following formula to help you calculate the distance between the points (**x1, y1**) and (**x2, y2**).

$$\sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$$

The order of comparisons should always be first **{x1, y1}** to **{0, 0}**, then **{x2, y2}** to **{0, 0}** and finally **{x1, y1}** to **{x2, y2}**.

In case a distance is valid, print: `{x1, y1} to {x2, y2} is valid``

If the distance is invalid, print: `{x1, y1} to {x2, y2} is invalid``

The **input** consists of two points given as **4 numbers**.

For each comparison print either `{x1, y1} to {x2, y2} is valid`` if the distance is valid, or `{x1, y1} to {x2, y2} is invalid`` if it is invalid.

### Examples

Input	Output
3, 0, 0, 4	{3, 0} to {0, 0} is valid {0, 4} to {0, 0} is valid {3, 0} to {0, 4} is valid
2, 1, 1, 1	{2, 1} to {0, 0} is invalid {1, 1} to {0, 0} is invalid {2, 1} to {1, 1} is valid

## 9. \*Words Uppercase

Write a program that **extracts all words** from a passed-in string and converts them to **upper case**. The extracted words in the upper case must be printed on a single line separated by ", ".

The **input** comes as a single string argument - the text to extract and convert words from.

The **output** should be a single line containing the converted string.

### Examples

Input	Output	Input	Output
'Hi, how are you?'	HI, HOW, ARE, YOU	'hello'	HELLO

## Hints

- You may need to use a [Regular Expression](#) or check for all delimiters that can be found in a sentence (ex. " ", "!", "?", and so on).