Lab: Data Types and Variables

Problems for in-class lab for the "JS Fundamentals " course @ SoftUni.
Submit your solutions in the SoftUni judge system at: Data-Types-and-Variables-Lab

1. Concatenate Names

Write a **`function`** which receives two **`names`** as **string parameters** and a **`delimiter`**. Print the names **joined** by the delimiter.

Examples

Input	Output
'John', 'Smith', '->'	`John->Smith`
'Jan', 'White', '<->'	`Jan<->White`
'Linda', 'Terry', '=>'	`Linda=>Terry`

Hints

Use string interpolation.

```
function solve(first, second, del) {
    console.log(`${first}${del}${second}`);
}
```

2. Right Place

You will receive **3 parameters (`string, char, string`).**
First string will be a word with a **missing char** replaced with a underscore '**_**'
You have to **replace** the character with the missing part (**underscore**) from the first string and **compare** the result with the second string.

If they are equals you should print "**`Matched`**", otherwise print "**`Not Matched`**".

Examples

Input	Output
'Str_ng', 'I', 'Strong'	Not Matched
'Str_ng', 'i', 'String'	Matched

Hints

```
function solve(str, char, result) {
    let res = str.replace('_', char);
    let output = res === result ? 'Matched' : 'Not Matched';
    console.log(output);

}
```

3. Integer and Float

You will receive **3 numbers**. Your task is to find their **sum** and print it to the console with the addition
" **- {type of the number (Integer or Float)}**":

Examples

Input	Output
9, 100, 1.1	110.1 - Float
100, 200, 303	603 - Integer

Hints

```
function solve(firstNum, secondNum, thirdNum) {

    let sum = firstNum + secondNum + thirdNum;

    sum % 1 === 0 ? sum += ' - Integer' : sum += ' - Float';
    console.log(sum);
}
```

4. Amazing Numbers

Write a **function** which as **input** will receive a **number**.

Check and print if it is **amazing** or **not** into the following format:

```
"{number} Amazing? {result}"
```

An amazing number is one that includes the **digit 9** the sum of its digits.

Examples for amazing numbers are 1233 (1 + 2 + 3 + 3 = 9), 583472 (5 + 8 + 3 + 4 + 7 + 2 = 29)

Examples

Input	Output
1233	1233 Amazing? True
999	999 Amazing? False

Hints

Use **includes()**

```
function solve(num) {
    num =  num.toString();
    let sum = 0;
    for(let i = 0; i < num.length; i++) {
        sum += Number(num[i]);
    }

    let result = sum.toString().includes('9');
    console.log(result
        ? `${num} Amazing? True`
        : `${num} Amazing? False`);
}
```

5. Gramophone

Write a **function** which as **input** will receive **3 parameters (strings)**

- **First string** is the name of the **band**
- **Second string** is the name of the **album**
- **The third** is holding a **song** name from the album

You have to find out how many **times** the plate will **rotate** the given song from the album.

The plate makes a full rotation every **2.5** seconds.

The song **duration in seconds** is calculate by the given formula:

albumName.length * bandName.length) * song name.length / 2

As **output** you should print the following message:

"The plate was rotated {rotations} times."

Rotations should be **rounded up**.

Examples

Input	Output
'Black Sabbath', 'Paranoid', 'War Pigs'	The plate was rotated 167 times.

Hints

```
function solve(bandName, albumName, songName) {
    let time = (bandName.length * albumName.length)
        * songName.length / 2;
    let rotations = Math.ceil(time / 2.5);
    console.log(`The plate was rotated ${rotations} times.`);
}
```

6. Fuel Money

Write a **function** which **calculates** how much **money** for fuel will be needed to drive a bus from one place to another.Consider the following:

- Calculate **the fuel** by knowing that **an empty bus** can pass **100 km** with **7L** diesel.
- **One person** in that bus excluding the driver increases fuel consumption by **100 milliliters**.
- The **money** is calculated by **multiplying** the **fuel price** with the **needed fuel** for the trip.

As **input** you will receive **3 parameters (**the **distance** the bus must travel**,** the **passengers** in it and the **price** for **1 liter of diesel)**

As **output** you should print this message: **"Needed money for that trip is {neededMoney} lv"**

Examples

Input	Output

260, 9, 2.49	Needed money for that trip is 47.559lv.
90, 14, 2.88	Needed money for that trip is 22.176lv.

Hints

```
function solve(distance, passengers, price) {
    let neededFuel = (distance / 100) * 7;
    neededFuel += passengers * 0.100;
    let money = neededFuel * price;
    console.log(`Needed money for that trip is ${money}lv.`);
}
```

7. Centuries to Minutes

Write program to receive a **number** of **centuries** and convert it to **years**, **days**, **hours** and **minutes**.

Examples

Input	Output
1	1 centuries = 100 years = 36524 days = 876576 hours = 52594560 minutes
5	5 centuries = 500 years = 182621 days = 4382904 hours = 262974240 minutes

Hint

- Assume that a year has 365.2422 days at average (the Tropical year).

Solution

You might help yourself with the code below:

```
function solve(centuries) {
    let years = centuries * 100;
    let days = Math.trunc(years * 365.2422);
    let hours = 24 * days;
    let minutes = 60 * hours;

    console.log(`${centuries} centuries = ${years} `
     + `years = ${days} days = ${hours} hours`
        + ` = ${minutes} minutes`);
}
```

8. Special Numbers

Write a program to receive a number **n** and for all numbers in the range **1…n** print the number and if it is special or not (**`True`** / **`False`**).

A **number** is **special** when its **sum of digits is 5, 7 or 11**.

Examples

Input	Output
15	1 -> False 2 -> False 3 -> False 4 -> False 5 -> True 6 -> False 7 -> True 8 -> False 9 -> False 10 -> False 11 -> False 12 -> False 13 -> False 14 -> True 15 -> False

Hints

To calculate the sum of digits of given number **`num`**, you might repeat the following: sum the last digit (**`num % 10`**) and remove it (**`sum = sum / 10`**) until **`num`** reaches **`0`**. Use **`parseInt()`** while dividing to get only integer numbers.

9. Triples of Latin Letters

Write a program to receive a **number n** and print all **triples** of the first **n small Latin letters**, ordered alphabetically:

Examples

Input	Output
3	aaa aab aac aba abb abc

	aca acb acc baa bab bac bba bbb bbc bca bcb bcc caa cab cac cba cbb cbc cca ccb ccc

Hints

Perform 3 nested loops from **0** to **n**. For each number **num** print its corresponding Latin letter as follows:

```
let letter = String.fromCharCode(97 + num);
```

The function **String.fromCharCode()** gets the value in **decimal** and transforms it to a character from the **ASCII table**.