Lab: Data Types and Variables

Problems for exercise and homework for the "JS Fundamentals" Course @ SoftUni.
Submit your solutions in the SoftUni judge system at: https://judge.softuni.org/Contests/1242

1. Echo Type

Write a JS function that takes **one parameter** and **prints** on two lines the **type** of the parameter and then one of the following:

- If the parameter type is either **`string`** or **number**, print its value
- Otherwise, print the text **'Parameter is not suitable for printing'**

Examples

Input	Output
`'Hello, JavaScript!'`	`string` `Hello, JavaScript!`
`18`	`number` `18`
`null`	`object` `Parameter is not suitable for printing`

Hints

- Write a function that receives a single **parameter**.
- Use the console.log function to print text on the console. Each call prints a new line automatically.
- The **`typeof` operator** is used to determine the data type of a given value.

2. 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}`);
}
```

3. Right Place

You will receive **3 parameters (`string, char, string`).**
The first string will be a word with a **missing char** replaced with an underscore '_'.
You have to **replace** the missing character (**underscore**) of the first string with the character passed as the second parameter 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);
}
```

4. Integer and Float

You will receive **3 numbers**. Your task is to find their **sum** and print result to the console in the following format:
`` `{sum} - {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);
}
```

5. 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? {True or False}"

An amazing number 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`);
}
```

6. Gramophone

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

- **The first string** is the name of the **band**
- **The 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.
'Rammstein', 'Sehnsucht', 'Engel'	The plate was rotated 81 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.`);
}
```

7. Required reading

Write a **function** to help **Ivan** calculate how many hours a day he has to spend reading the necessary literature from the list given for the summer vacation.

As **input,** you will receive **3 parameters:**

- **Number of pages of the current book** - **integer** [1… 1000]
- **Pages read in 1 hour** - **integer** [1… 1000]
- **The number of days for which you must read the book** - **integer** [1… 1000]

As **output** print on the console the **number of hours**, that Ivan has to read each day.

Examples

Input	Output	Explanations
212, 20 , 2	5.3	Total time to read the book: **212 pages / 20 pages per hour = 10.6 hours** Required hours per day: **10.6 hours / 2 days = 5.3 hours** per day
Input	**Output**	
432, 15 , 4	7.2	Total reading time of the book: **432 pages / 15 pages per hour = 28.8 hours** Required hours per day: **28.8 hours / 4 days = 7.2 hours** per day

8. Centuries to Minutes

Write a program that receives a **number** of **`centuries`** and converts 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 on 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`);
}
```

9. Special Numbers

Write a program that receives a number **n.** 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
20	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 16 -> True 17 -> False 18 -> False 19 -> False 20 -> 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.

10. Triples of Latin Letters

Write a program that receives a string of **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
2	aaa aab aba abb baa bab bba bbb

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**.