

Lab: Control Flow Logic

Problems for in-class lab for the [“JavaScript Fundamentals” course @ SoftUni](#). Submit your solutions in the SoftUni judge system at <https://judge.softuni.bg/Contests/288/>.

1. Multiply Numbers

Write a JS function that calculates the product of two numbers.

The **input** comes as array of strings, where each element holds a number.

The **output** should be the returned as a result of your function.

Examples

Input	Output
3 2	6

Input	Output
23632.36 -12.3249	-291266.473764

2. Boxes and Bottles

Write a JS function to calculate how many boxes will be needed to fit **n** bottles if each box fits **k** bottles.

The **input** comes as array of strings, where each element holds a number. The first element is the number of bottles and the second is the capacity of a single box.

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

Examples

Input	Output
20 5	4

Input	Output
15 7	3

Input	Output
5 10	1

3. Leap Year

Write a JS function to check whether a year is leap. Leap years are either divisible by 4 but not by 100 or are divisible by 400.

The **input** comes as array of one string element, holding a number.

The **output** should be printed to the console. Print **yes** if the year is leap and **no** otherwise.

Examples

Input	Output
1999	no

Input	Output
2000	yes

Input	Output
1900	no

4. Circle Area

Write a JS function that calculates circle area by given radius. Print the area as it is calculated and then print it rounded to two decimal places.

The **input** comes as array of one string element, holding a number.

The **output** should be printed to the console on a new line for each result.

Examples

Input	Output
5	78.53981633974483 78.54

5. Triangle Area

Write a JS function that calculates a triangle's area by its 3 sides.

The **input** comes as array of three string elements, each holding a number, representing one side of a triangle.

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

Examples

Input	Output
2 3.5 4	3.4994419198

Hints

Use [Heron's formula](#) to obtain the result.

6. Cone

Write a JS function to calculate a cone's volume and surface area by given height and radius at the base.

The **input** comes as array of two string elements, each holding a number. The first element is the cone's **radius** and the second is its **height**.

The **output** should be printed to the console on a new line for every result.

Examples

Input	Output
3 5	volume = 47.1239 area = 83.2298

Input	Output
3.3 7.8	volume = 88.9511 area = 122.016

Hints

You can use this online tools to check your results:

<http://www.calculatorsoup.com/calculators/geometry-solids/cone.php>

7. Odd / Even

Write a JS function to check if a number is **odd** or **even** or **invalid** (fractions are neither odd nor even).

The **input** comes as array of one string element, holding a number.

The **output** should be printed to the console. Print **odd** for odd numbers, **even** for even number and **invalid** for numbers that contain decimal fractions.

Examples

Input	Output	Input	Output	Input	Output
5	odd	8	even	1.5	invalid

8. Fruit or Vegetable

Write a JS function to print "**fruit**", "**vegetable**" or "**unknown**" depending on the input string.

- Fruits are: banana, apple, kiwi, cherry, lemon, grapes, peach
- Vegetable are: tomato, cucumber, pepper, onion, garlic, parsley
- All others are unknown

The **input** comes as array of one string element, the name of the fruit.

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

Examples

Input	Output	Input	Output	Input	Output
banana	fruit	cucumber	vegetable	pizza	unknown

9. Colorful Numbers

Write a JS function to print the numbers from 1 to **n**. Return a string holding HTML list with the odd lines in blue and even lines in green. See the example for more information.

The **input** comes as array of one string element, holding the number **n**.

The **output** should be returned as a result of your function in the form of a string.

Examples

Input	Output
10	<pre> 1 2 3 4 5 6 7 8 9 10 </pre>

10. Chess Board

Write a JS function to print a chessboard of size **n X n**. See the example for more information.

The **input** comes as array of one string element, holding the number **n**.

The **output** should be returned as a result of your function in the form of a string.

Examples

Input	Output
3	<pre><div class="chessboard"> <div> </div> <div> </div> <div> </div> </div></pre>

11. Binary Logarithm

Write a JS function that prints the **binary logarithm** ($\log_2 x$) for each number in the input.

The **input** comes as array of string elements, each holding a number.

The **output** should be printed to the console, on a new line for each number.

12. Prime Number Checker

Write a JS function to check if a number is prime (only wholly divisible by itself and one).

The **input** comes as array of one string element, holding the number.

The **output** should be the return value of your function. Return **true** for prime number and **false** otherwise.

Examples

Input	Output	Input	Output	Input	Output
7	true	8	false	81	false