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 two number arguments.

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 two number arguments. 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 a single number argument.

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 a single number argument.

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 three number arguments, 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 two number arguments. 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 tool 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 a single number argument.

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
5	odd

Input	Output
8	even

Input	Output
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 a single string argument, the name of the fruit.

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

Examples

Input	Output
banana	fruit

Input	Output
cucumber	vegetable

Input	Output
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 a single number argument **n**.

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

Examples

Input	Output

10	`<ul>`
	`  <li><span style='color:green'>1</span></li>`
	`  <li><span style='color:blue'>2</span></li>`
	`  <li><span style='color:green'>3</span></li>`
	`  <li><span style='color:blue'>4</span></li>`
	`  <li><span style='color:green'>5</span></li>`
	`  <li><span style='color:blue'>6</span></li>`
	`  <li><span style='color:green'>7</span></li>`
	`  <li><span style='color:blue'>8</span></li>`
	`  <li><span style='color:green'>9</span></li>`
	`  <li><span style='color:blue'>10</span></li>`
	`</ul>`

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 a single number argument **n**.

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

Examples

Input	Output

3	`<div class="chessboard">`
	`  <div>`
	`  <span class="black"></span>`
	`  <span class="white"></span>`
	`  <span class="black"></span>`
	`  </div>`
	`  <div>`
	`  <span class="white"></span>`
	`  <span class="black"></span>`
	`  <span class="white"></span>`
	`  </div>`
	`  <div>`
	`  <span class="black"></span>`
	`  <span class="white"></span>`
	`  <span class="black"></span>`
	`  </div>`
	`</div>`

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 an array of number elements.

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 a single number argument.

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

Examples

Input	Output
7	true

Input	Output
8	false

Input	Output
81	false