

Лабораторна робота №8

NodeJS - Алгоритми

1 Simple problem

Statement Discussion Editorial Attempts

Simple problem

★ Very easy English

Found an issue or missing something? Help us improve this problem. Suggest change

CPU usage time limit is 1 second
Runtime memory usage limit is 128 megabytes

Write a program which reads a two-digit number and prints every digit, separated by a space.

Input

One integer from 10 to 99 inclusively.

Output

Print two digits separated by a space.

Examples

Input #1	Answer #1
23	2 3

JavaScript (node 18)

Run Submit

```
1 process.stdin.on('data', function (data) {
2   let n = parseInt(data, 10)
3   console.log(`${Math.floor(n/10)} ${n%10}`);
4 });
5
```

Input Execution Testing

Accepted 100 / 100

Test suite #1 Accepted 100/100 62 ms 41.85 MB

85 Spiral

Statement Discussion Attempts

Spiral

☆ Very easy English

Found an issue or missing something? Help us improve this problem. Suggest change

Execution time limit is 1 second
Runtime memory usage limit is 128 megabytes

1	2	3	4	5
16	17	18	19	6
15	24	25	20	7
14	23	22	21	8
13	12	11	10	9

Numbers from 1 to n^2 are written in a square matrix of size $n \times n$ in a spiral starting from the top left cell in a clockwise direction, as shown in the figure. Find a number which is located in the i -th row and j -th column.

Input

Three natural numbers n, i, j ($1 \leq i, j \leq n \leq 100$).

Output

Print the number that has the coordinates i, j .

JavaScript (node 18)

Run Submit

```
1 process.stdin.on('data', function (data) {
2   const input = data.toString().split(' ').map(x => parseInt(x));
3   const n = input[0];
4   const i = input[1] - 1;
5   const j = input[2] - 1;
6
7   let matrix = Array.from(Array(n), () => new Array(n).fill(0));
8   let value = 1;
9   let x = 0, y = 0;
10  let dx = 0, dy = 1;
11
12  while (value <= n * n) {
13    matrix[x][y] = value;
14    value++;
15    if (dy === 1 && (y + dy === n || matrix[x][y + dy] !== 0)) {

```

Input Execution Testing

Accepted 100 / 100

Test suite #1 Accepted 100/100 202 ms 44.98 MB

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909Number of words

StatementDiscussionEditorialAttempts

Number of words

English

Found an issue or missing something? Help us improve this problem. Suggest change

Execution time limit is 1 second
Runtime memory usage limit is 128 megabytes

Find the number of words in the given text.

Input

The English text is given in one line, the number of characters does not exceed 250. It is guaranteed that the text does not contain dashes, hyphens, digits, or numbers.

Output

Print the number of words in the text.

Examples

Input #1

Answer #1

Input #2

Answer #2

JavaScript (node 18)

RunSubmit

```
1 process.stdin.on('data', function (data) {
2   const input = data.toString().trim();
3   const words = input.split(/\s+/).filter(Boolean);
4   const wordCount = words.length;
5   console.log(wordCount);
6 });
```

InputExecutionTesting

Accepted100 / 100

Test suite #1
Accepted100/10063 ms41.84 MB

916Interesting Product

StatementDiscussionAttempts

Interesting Product

English

Found an issue or missing something? Help us improve this problem. Suggest change

Execution time limit is 1 second
Runtime memory usage limit is 128 megabytes

Find all possible values of product $i \cdot j$, if the integer values of variables i and j vary for i from a to b and j from c to d .

Input

One line contains 4 numbers a, b, c and d ($1 \leq a, b, c, d \leq 10$, a can be greater than b , c can be greater than d).

Output

Print the number of possible product values.

Examples

Input #1

Answer #1

JavaScript (node 18)

RunSubmit

```
1 process.stdin.on('data', function (data) {
2   let [a, b, c, d] = data.toString().trim().split(' ').map(Number);
3   let res = new Set();
4   let temp;
5   if(a>b){
6     temp = a;
7     a = b;
8     b = temp;
9   }
10  if(c>d){
11    temp = c;
12    c = d;
13    d = temp;
14  }
15  for(let i = a; i<=b; i++){
```

InputExecutionTesting

Accepted100 / 100

Test suite #1
Accepted100/10066 ms41.87 MB

930 Mobile Phone

StatementDiscussionAttempts

Mobile Phone

☆🚩🔗🔍 Very easyEnglish ▾

🚩 Found an issue or missing something? Help us improve this problem. Suggest change

⌚ Execution time limit is 0.5 seconds

💾 Runtime memory usage limit is 128 megabytes

Mobile phone number is set. Define, what digits are absent in this number.

Input

In a unique line set mobile phone number.

Output

In the first line deduce quantity of digits absent in number. In the second line in ascending order deduce the absent digits parted by a blank.

Examples

Input #1

0631562976

Answer #1

2
4 8

JavaScript (node 18)

RunSubmit

```
1 process.stdin.on('data', function (data) {
2   const inputString = data.toString().trim().replace('+', '').trim();
3   const numbers = inputString.split('').filter(char => !isNaN(char) && char !== ' ').map(Number);
4   let digits = [0, 1, 2, 3, 4, 5, 6, 7, 8, 9];
5   let missingDigits = new Set();
6   digits.forEach(digit => {
7     if (!numbers.includes(digit)) {
8       missingDigits.add(digit);
9     }
10  });
11  console.log(missingDigits.size);
12  console.log(Array.from(missingDigits).join(' '));
13 });
```

InputExecutionTesting

Accepted100 / 100

Test suite #1

Accepted100/10061 ms42.01 MB>

935 Decomposition of three digit number

StatementDiscussionEditorialAttempts

Decomposition of three digit number

☆🚩🔗🔍 Very easyEnglish ▾

🚩 Found an issue or missing something? Help us improve this problem. Suggest change

⌚ Execution time limit is 1 second

💾 Runtime memory usage limit is 128 megabytes

Decompose a given 3-digit number to digits.

Input

One three digit integer (positive or negative).

Output

Print each digit in separate line as shown in example.

Examples

Input #1

198

Answer #1

1
9
8

JavaScript (node 18)

RunSubmit

```
1 process.stdin.on('data', function (data) {
2   const input = data.toString().trim().replace('-', '').split('').map(Number);
3   input.forEach(digit => {
4     console.log(digit);
5   });
6 });
```

InputExecutionTesting

Accepted100 / 100

Test suite #1

Accepted100/10067 ms41.94 MB>

2162

Palindrome

Statement

Discussion

Attempts

Palindrome

☆

🔖

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🔍

Very easy

English

Found an issue or missing something? Help us improve this problem.

Suggest change

⌚ Execution time limit is 1 second

💾 Runtime memory usage limit is 128 megabytes

Palindrome is a sequence of characters that reads the same backwards as well as forwards. Find out whether the given text is a palindrome. Do not forget that space is not pronounced when reading.

Input

String S ($|S| \leq 1000$) consists of small Latin letters and spaces. $|S|$ means the length of a string.

Output

Print "YES" if the text is a palindrome and "NO" otherwise.

Examples

Input #1

palindrom

Answer #1

NO

Input #2

Answer #2

JavaScript (node 18)

Run

Submit

```

1 process.stdin.on('data', function (data) {
2   const input = data.toString().trim().replace(/[ ,]/g, '');
3   if (input === input.split('').reverse().join('')) {
4     console.log("YES");
5   } else {
6     console.log("NO");
7   }
8 });

```

Input

Execution

Testing

Accepted

100 / 100

Test suite #1

Accepted

100/100

64 ms

41.99 MB

>

2666

Half

Statement

Discussion

Attempts

Half

☆

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English

Found an issue or missing something? Help us improve this problem.

Suggest change

⌚ Execution time limit is 1 second

💾 Runtime memory usage limit is 128 megabytes

Fill an array $n \times n$ in the next way: secondary diagonal contains zeros, all cells above it contains twos and all cells below it contains ones.

Input

One positive integer n ($n \leq 20$).

Output

Print the array filled like described above.

Examples

Input #1

3

Answer #1

220
201
011

JavaScript (node 18)

Run

Submit

```

1 process.stdin.on('data', function (data) {
2   let n = parseInt(data, 10);
3   let matrix = [];
4   for(let i = 0; i < n; i++){
5     matrix[i] = [];
6     for(let j = 0; j < n; j++){
7       if(i+j < n-1){
8         matrix[i][j] = 2;
9       }
10      else if(i+j === n-1){
11        matrix[i][j] = 0;
12      }
13      else{
14        matrix[i][j] = 1;
15      }
16    }
17  }
18 }

```

Input

Execution

Testing

Accepted

100 / 100

Test suite #1

Accepted

100/100

62 ms

41.87 MB

>

4035Ice-Cream

StatementDiscussionAttempts

Ice-Cream

☆🚩🔍🗑English

Found an issue or missing something? Help us improve this problem.Suggest change

⌚ Execution time limit is 1 second
💾 Runtime memory usage limit is 128 megabytes

The beach stretches along the seacoast like a narrow strip. At some points of the beach the ice cream stalls are located. One day not all the ice cream sellers come to work. Distribute the sellers among the ice-cream stalls so that the minimum distance between them is as much as possible. So they will interfere less with each other.

Input

The first line contains the number of stalls n ($2 < n < 10001$) and the number of ice cream sellers k ($1 < k < n$) at work. The second line contains n positive integers in increasing order - the coordinates of the stalls (the coordinates are not greater than 10^9).

Output

Print one number - the minimum distance between the adjacent stalls in the optimal arrangement.

Examples

Input #1

2 50

Answer #1

25

JavaScript (node 18)

RunSubmit

```
1 const readline = require('readline');
2
3 const rl = readline.createInterface({
4   input: process.stdin,
5   output: process.stdout,
6   terminal: false
7 });
8
9 const inputLines = [];
10
11 rl.on('line', (line) => {
12   inputLines.push(line.trim());
13 }).on('close', () => {
14   const [numKiosks, requiredKiosks] = inputLines[0].split(' ').map(Number);
15   const kioskPositions = inputLines[1].split(' ').map(Number);
```

InputExecutionTesting

Accepted100 / 100

Test suite #1Accepted100/10091 ms47.12 MB>

7336Пиріжки

StatementDiscussionAttempts

Пиріжки

★🚩🔍🗑Very easyEnglish

Found an issue or missing something? Help us improve this problem.Suggest change

⌚ Execution time limit is 1 second
💾 Runtime memory usage limit is 64 megabytes

Пиріжок у шкільній їдальні коштує a гривень та b копійок. Знайдіть скільки гривень та копійок заплатить Петрик за n пиріжків.

Вхідні дані: Три натуральних числа a , b , n ($0 \leq a, b, n \leq 100$).

Вихідні дані: Через пропуск два числа: вартість покупки у гривнях та копійках.

Examples

Input #1

1 25 2

Answer #1

2 50

JavaScript (node 18)

RunSubmit

```
1 process.stdin.on('data', function (data) {
2   const input = data.toString().trim().split(' ').map(Number);
3   const a = input[0];
4   const b = input[1];
5   const n = input[2];
6
7   let totalKopecks = (a * 100 + b) * n;
8
9   let totalHryvnias = Math.floor(totalKopecks / 100);
10  totalKopecks = totalKopecks % 100;
11
12  console.log(`${totalHryvnias} ${totalKopecks}`);
13 });
14
```

InputExecutionTesting

Accepted100 / 100

Test suite #1Accepted100/10061 ms41.90 MB>

Висновок: під час виконання даної лабораторної роботи, я вдосконалив свої навички написання алгоритмів.

GitHub: <https://github.com/AdamLahovskyi/NodeJS>

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