Exercise: Functions

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/1262

1. Smallest of Three Numbers

Write a function that receives **three integers** and prints the **smallest** number. Use an appropriate name for the function.

Examples

Input	Output
2, 5, 3	2
600, 342, 123	123
25, 21, 4	4
2, 2, 2	2

2. Add and Subtract

You will receive **three integer numbers.**

Write a function **`sum()`** to calculate the sum of the first **two** integers and a function **`subtract()`**, which subtracts the result of the function the **`sum()`** and the **third** integer.

Examples

Input	Output
23, 6, 10	19
1, 17, 30	-12
42,	0

58, 100	

3. Characters in Range

Write a function that receives **two characters** and prints on a single line all the characters in between them according to the **ASCII** code. Keep in mind that the second character code might be **before** the first one inside the **ASCII table**.

Examples

Input	Output
'a', 'd'	b c
'#', ':'	$ % & ' ( ) * + , - . / 0 1 2 3 4 5 6 7 8 9
'C', '#'	$ % & ' ( ) * + , - . / 0 1 2 3 4 5 6 7 8 9 : ; < = > ? @ A B

4. Odd and Even Sum

You will receive a **single number.** You have to write a function, that returns the **sum** of **all even** and **all odd** digits from that number.

Examples

Input	Output
1000435	Odd sum = 9, Even sum = 4
3495892137259234	Odd sum = 54, Even sum = 22

5. Palindrome Integers

A palindrome is a number, which reads the same **backward as forward**, such as 323 or 1001. Write a function, which receives an **array of positive integers** and checks if each integer is a palindrome or not.

Output

- If the current integer is a palindrome, print: **"true"**
- Otherwise, print: **"false"**

Examples

Input	Output

Input	Output

[123,323,421,121]	false true false true

[32,2,232,1010]	false true true false

Hints

- Read more about palindromes: https://en.wikipedia.org/wiki/Palindrome

6. Password Validator

Write a function that checks if a given password is valid. Password validations are:

- The **length** should be **6 - 10** characters (inclusive)
- It should consist **only of letters** and **digits**
- It should have **at least 2** digits

If a password is a valid print: **"Password is valid"**.

If it is **NOT** valid, for every unfulfilled rule print a message:

- **"Password must be between 6 and 10 characters"**
- **"Password must consist only of letters and digits"**
- **"Password must have at least 2 digits"**

Examples

Input	Output
'logIn'	Password must be between 6 and 10 characters Password must have at least 2 digits
'MyPass123'	Password is valid
'Pass'	Password must consist only of letters and digits Password must have at least 2 digits

7. NxN Matrix

Write a function that receives a single integer number **n** and prints **nxn** matrix with that number.

Examples

Input	Output
3	3 3 3 3 3 3 3 3 3
7	7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7

	7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7
2	2 2 2 2

8. Perfect Number

Write a function that receives a **number** and checks if that number is perfect or NOT.

A perfect number is a **positive** integer that is equal to the **sum** of its **proper positive divisors**. That is the sum of its positive **divisors** excluding the number itself (also known as its **aliquot sum**).

Output

- If the number is perfect, print: **"We have a perfect number!"**
- Otherwise, print: **"It's not so perfect."**

Examples

Input	Output	Comments
6	We have a perfect number!	1 + 2 + 3
28	We have a perfect number!	1 + 2 + 4 + 7 + 14
1236498	It's not so perfect.	

Hint

Equivalently, a perfect number is a number that is **half the sum** of all of its positive divisors (including itself) => 6 is a perfect number because it is the sum of 1 + 2 + 3 (all of which are divided without residue).

- Read about the Perfect number here: https://en.wikipedia.org/wiki/Perfect_number

9. Loading Bar

You will receive a **single number** between **0** and **100**, which is divided with 10 without residue (0, 10, 20, 30...).

Your task is to create a function that visualizes a **loading bar** depending on the number you have received in the input.

Examples

Input	Output
30	30% [%%%.......] Still loading...
50	50% [%%%%%.....] Still loading...
100	100% Complete!

	[%%%%%%%%%]

10. Factorial Division

Write a function that receives **two** integer numbers. Calculate the **factorial** of each number. Divide the first result by the second and print the division formatted to the **second decimal** point.

Examples

Input	Output
5, 2	60.00

Input	Output
6, 2	360.00

Hints

- Read more about factorial here: https://en.wikipedia.org/wiki/Factorial
- You can use recursion