Exercise: Functions

Write C++ code for solving the tasks on the following pages.

1. Center Point

You are given the coordinates of two points on a Cartesian coordinate system - X1, Y1, X2 and Y2. **Create a method** that prints the point that is closest to the center of the coordinate system (0, 0) in the format (X, Y). If the points are on a same distance from the center, print only the first one.

Examples

Input	Output
2 4 -1 2	(-1, 2)

2. Operations

Write a program that receives two integer numbers and one of the following four instructions (as a single symbol): **+**, **-**, *****, **/** on the next line. The operations are as following: **+** is addition, **-** is subtraction, ***** is multiplication and **/** is division. Create four functions (for each operation) and call the right one depending on the command.

The function should print:

- The calculated number
- **"Can't divide by zero." -** on certain conditions

Examples

Input	Output
8 4 /	2
2 3 -	-1
1 2 +	3

3. Factorial Division

Read two integer numbers. Calculate 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

4. Print Name of Numbers

Write a program that, given an integer number in the range [0, 9999], prints the name of that number in English.

Simplifications:

- Use lowercase English letters only
- Don't place "**and**" (e.g. **957** is **`nine hundred fifty seven`**, NOT **`nine hundred and fifty seven`**)
- Skip 0 digits, except for the number 0 (e.g. **`0`** -> **`zero`**; **`101`** -> **`one hundred one`**; **`1001`** -> **`one thousand`** one)
- Don't print dashes (e.g. print **75** as **`seventy five`**, NOT **`seventy-five`**)

Examples

Input	Output
`0`	`zero`
`101`	`one hundred one`
`957`	`nine hundred fifty seven`

5. Multiply Evens Sum by Odds

Create a program that reads an **integer number** and **multiplies the sum of all its even digits** by **the sum of all its odd digits**:

Examples

Input	Output	Comments
12345	54	12345 has **2 even digits** - 2 and 4. Even digits has **sum of 6.** Also it has **3 odd digits** - 1, 3 and 5. Odd digits has **sum of 9.** **Multiply 6 by 9** and you get **54.**
-12345	54	

Additional Problem

Operations* (not included in the homework)

Write a program that receives two integer numbers from the console, then reads one of the following four instructions (as a single symbol): **+**, **-**, *****, **/** and performs the respective operation on the two numbers, with the first number as a left operand and the second number as a right operand (**+** is addition, **-** is subtraction, ***** is multiplication and **/** is division).

If the user enters a symbol different than one of the four operations, the program should print **`try again`** and allow the user to enter the operation again.

Examples

Input	Output
2 3 -	-1
12 5 ? A 5 *	try again try again try again 60