# More Exercise: Functions

Additional exercises for the [Python Fundamentals Course @SoftUni](https://softuni.bg/trainings/2442/python-fundamentals-september-2019). Submit your solutions in the   
SoftUni judge system at <https://judge.softuni.bg/Contests/1729>

***Note: All the exercises are excluded from your homework!***

## Data Types

Write a program that, depending on the first line of the input, reads an **int**, **double** or **string**.

* If the data type is int, multiply the number by 2.
* If the data type is real, multiply the number by 1.5 and format it to the second decimal point.
* If the data type is string, surround the input with "$".

Print the result on the console.

### Examples

|  |  |
| --- | --- |
| **Input** | **Output** |
| int  5 | 10 |
| real  2 | 3.00 |
| string  hello | $hello$ |

### Hint

Try to solve the problem using only one method with different overloads.

## Center Point

You are given the coordinates of two points on a [Cartesian coordinate system](https://en.wikipedia.org/wiki/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) |

## Longer Line

You are given the coordinates of four points in the 2D plane. The first and the second pair of points form two different lines. Print the longer line in format "(X1, Y1)(X2, Y2)" starting with the point that is closer to the center of the coordinate system (0, 0) (You can reuse the method that you wrote for the previous problem). If the lines are of equal length, print only the first one.

### Examples

|  |  |
| --- | --- |
| **Input** | **Output** |
| 2  4  -1  2  -5  -5  4  -3 | (4, -3)(-5, -5) |

## Tribonacci Sequence

In the **"Tribonacci" sequence**, every number is formed by the **sum of the previous 3**.

You are given a number num. Write a program that printsnumnumbers from the Tribonacci sequence, each on a new line, starting from 1. The input comes as a parameter named num. The value num will always be positive integer.

### Examples

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Input** | **Output** |  | **Input** | **Output** |
| 4 | 1 1 2 4 |  | 8 | 1 1 2 4 7 13 24 44 |

## Multiplication Sign

You are given a number num1, num2 and num3. Write a program that finds if num1 \* num2 \* num3 (the product) is **negative**, **positive or zero**. Try to do this **WITHOUT** multiplying the 3 numbers.

### Examples

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Input** | **Output** |  | **Input** | **Output** |
| 2  3  -1 | negative |  | 2  3  1 | positive |