# Lab: Functions

This document defines the exercises for the ["C++ Fundamentals" course @ Software University](https://softuni.bg/trainings/3657/cpp-fundamentals-march-2022). Please submit your solutions (source code) of all below-described problems in [Judge](https://judge.softuni.org/Contests/2951/CPlusPlus-Functions-Lab).

## Sign of Integer Numbers

Create a function that prints the **sign** of an integer number **n**:

### Examples

|  |  |
| --- | --- |
| **Input** | **Output** |
| 2 | The number 2 is positive. |
| -5 | The number -5 is negative. |
| 0 | The number 0 is zero. |

## Grades

Write a function that **receives a grade** between **2.00** and **6.00** and **prints the corresponding grade in words**

* 2.00 – 2.99 - "**Fail**"
* 3.00 – 3.49 - "**Poor**"
* 3.50 – 4.49 - "**Good**"
* 4.50 – 5.49 - "**Very good**"
* 5.50 – 6.00 - "**Excellent**"

### Examples

|  |  |
| --- | --- |
| **Input** | **Output** |
| 3.33 | Poor |
| 4.50 | Very good |
| 2.99 | Fail |

## Smallest of Three Numbers

Write a function to print the smallest of three integer numbers. Use an appropriate name for the function.

### Examples

|  |  |
| --- | --- |
| **Input** | **Output** |
| 2  5  3 | 2 |
| 600  342  123 | 123 |
| 25  21  4 | 4 |

## Printing Triangle

Create a function for printing triangles as shown below:

### Examples

|  |  |
| --- | --- |
| **Input** | **Output** |
| 3 | 1  1 2  1 2 3  1 2  1 |
| 4 | 1  1 2  1 2 3  1 2 3 4  1 2 3  1 2  1 |

## Calculate Rectangle Area

Create a function that calculates and **returns** the [area](http://www.mathopenref.com/trianglearea.html) of a rectangle by given width and height:

### Examples

|  |  |
| --- | --- |
| **Input** | **Output** |
| 3  4 | 12 |
| 6  2 | 12 |

## Math Power

Create a function that calculates and returns the value of a number raised to a given power:

### Examples

|  |  |
| --- | --- |
| **Input** | **Output** |
| 2  8 | 256 |
| 3  4 | 81 |