# Lab: Basic Syntax

This document defines the exercises for the ["C++ Fundamentals" course @ Software University](https://softuni.bg/trainings/4263/cpp-fundamentals-november-2023)

Please submit your solutions (source code) of all below-described problems in [Judge](https://judge.softuni.org/Contests/4453/Basic-Syntax-Lab)

## Student Information

You will be given 3 lines of input – **student name (string)**, **age (integer number)**, and **average grade (floating-point number)**. Your task is to print all the info about the student in the following format, where **grade is formatted with 2 digits**:

"Name: {student name}, Age: {student age}, Grade: {student grade}".

### Examples

|  |  |
| --- | --- |
| **Input** | **Output** |
| John  15  5.40 | Name: John, Age: 15, Grade: 5.40 |
| Steve  16  2.50 | Name: Steve, Age: 16, Grade: 2.50 |
| Marry  12  6.00 | Name: Marry, Age: 12, Grade: 6.00 |

## Passed or Failed

Write a program that takes as an input a **grade (floating-point number)**.

Prints:

* "**Passed!**" if the grade is **equal or more than 3.00**
* "**Failed!**" if the grade is **lower than 3.00**

### Input

The **input** comes as a single double number.

### Output

The **output** is either "**Passed!**" if the grade is **more than 2.99**, otherwise, you should print "**Failed!**".

### Examples

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Input** | **Output** |  | **Input** | **Output** |
| 5.32 | Passed! |  | 2.36 | Failed! |

## Month Printer

Write a program that takes an **integer** from the console and prints the corresponding **month**.

If the number **is more than 12** or **less than 1** print "**Error!**".

### Input

You will receive a **single** **integer** on a **single line**.

### Output

If the number is within the boundaries, print the corresponding month, otherwise, print "**Error!**".

### Examples

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Input** | **Output** |  | **Input** | **Output** |
| 2 | February |  | 13 | Error! |

## Foreign Languages

Write a program that prints the language that a given country speaks. You can receive only the following combinations:

* English **is spoken** in **England** and **USA**
* Spanish **is spoken** in **Spain**, **Argentina** and **Mexico**
* For the others we should print "**unknown**"

### Input

You will receive a **single country name** on a **single line**.

### Output

**Print** the **language**, which the country **speaks**, or if it is **unknown** for your program, print **"**unknown**"**.

### Examples

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Input** | **Output** |  | **Input** | **Output** |
| USA | English |  | Germany | unknown |

## Divisible by 3

Write a program that prints all the numbers (on separate line) from **1 to 100**, which are **divisible by 3**. You have to use a single for loop. The program should not receive input.

## Sum of Odd Numbers

Write a program that prints the next **n** **odd numbers** (starting from 1) and on the **last row** prints the **sum of them**.

### Input

On the first line, you will receive a number – **n**. This number shows how many **odd numbers** you should print.

### Output

Print the next **n** odd numbers, starting from **1**, separated by **new lines**. On the last line, print the **sum** of these numbers.

### Constraints

* **n** will be in the interval **[1…100]**

### Examples

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Input** | **Output** |  | **Input** | **Output** |
| 5 | 1  3  5  7  9  Sum: 25 |  | 3 | 1  3  5  Sum: 9 |

## Multiplication Table

You will receive an **integer** as input from the console. Print the **10 times table** for this integer. See the examples below for more information.

### Output

Print every row of the table in the following format:

{theInteger} X {times} = {product}

### Constraints

* The integer will be in the interval **[1…100]**

### Examples

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Input** | **Output** |  | **Input** | **Output** |
| 5 | 5 X 1 = 5  5 X 2 = 10  5 X 3 = 15  5 X 4 = 20  5 X 5 = 25  5 X 6 = 30  5 X 7 = 35  5 X 8 = 40  5 X 9 = 45  5 X 10 = 50 |  | 2 | 2 X 1 = 2  2 X 2 = 4  2 X 3 = 6  2 X 4 = 8  2 X 5 = 10  2 X 6 = 12  2 X 7 = 14  2 X 8 = 16  2 X 9 = 18  2 X 10 = 20 |

## Even Number

Take as an input an even number and **print its absolute value** with a message**:** "**The number is: {absoluteValue}**". If the number is odd, print "**Please write an even number.**" and continue reading numbers.

### Examples

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Input** | **Output** |  | **Input** | **Output** |
| 1  3  6 | Please write an even number.  Please write an even number.  The number is: 6 |  | -6 | The number is: 6 |