# Lab: Strings and Streams

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/4481/Strings-and-Streams-Lab)

## Reverse Strings

Write a program that:

* Read a series of words until you receive a word "**end**"
* Reverse each given word
* Prints each reversed word in the format:

"**{word} = {reversed word}**"

### Examples

|  |  |
| --- | --- |
| **Input** | **Output** |
| helLo  Softuni  bottle  end | helLo = oLleh  Softuni = inutfoS  bottle = elttob |
| Dog  caT  chAir  end | Dog = goD  caT = Tac  chAir = riAhc |

## Repeat Strings

### Write a program that:

### Read an space-separated number of strings from the console

### Each string has to be repeated N times in the output, where N is the length of the string

### Print the resulting string

**Note**: Do not use separator or new line between the strings.

### Examples

|  |  |
| --- | --- |
| **Input** | **Output** |
| hi abc add | hihiabcabcabcaddaddadd |
| work | workworkworkwork |
| ball | ballballballball |

## Substring

Write a program that:

* Read a **string (first)** from the first line of the console
* Read **another string (second)** from the second line of the console
* Remove **all of the occurrences of the first string in the second** **string** until there is no match
* Print the **remaining string**

### Examples

|  |  |  |
| --- | --- | --- |
| **Input** | **Output** | **Comment** |
| ice  kicegiciceeb | kgb | We remove ice once, and we get "kgiciceeb"  We match "ice" one more time, and we get "kgiceb"  There is one more match. The final result is "kgb" |
| e  fixture | fixtur |  |

## Digits, Letters and Other

Write a program that:

* Read a string from the first line of the console
* Prints:
  + On the first line: all the digits
  + On the second line: all the letters
  + On the third line: all the other characters

**Note:** There will always be at least one digit, one letter and another character.

### Examples

|  |  |
| --- | --- |
| **Input** | **Output** |
| Agd#53Dfg^&4F53 | 53453  AgdDfgF  #^& |
| a1! | 1  a  ! |