# **Lab: Strings and Text Processing**

Problems for in-class lab for the "C# Fundamentals" course @ SoftUni You can check your solutions in Judge

# 1. Reverse Strings

You will be given a series of strings, until you receive an "end" command. Write a program that reverses strings and prints each pair on a separate line in the format "{word} = {reversed word}".

### **Examples**

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

#### Solution

Use while loop and read strings, until you receive "end".

```
string line = Console.ReadLine();
while (line != "end")
    line = Console.ReadLine();
```

Reverse the string with a **for** loop. Start from the last index and append each symbol to the new string.

```
string reversed = "";
for (int i = line.Length - 1; i >= 0; i--)
{
    reversed += line[i];
```

Print the reversed string in the specified format.

```
Console.WriteLine($"{line} = {reversed}");
```













## 2. Repeat Strings

Create a program that reads an array of strings. Each string is repeated N times, where N is the length of the string. Print the concatenated string.

### **Examples**

Input	Output	
hi abc add	hihiabcabcabcaddaddadd	
work	workworkwork	
ball	ballballball	

#### Solution

Read a string array.

```
string[] words = Console.ReadLine().Split();
```

Initialize StringBuilder.

```
StringBuilder resutl = new StringBuilder();
```

Iterate through the elements of the array.

```
foreach (string word in words)
{
```

Find the length of the current word and append it.

```
int count = word.Length;
for (int i = 0; i < count; i++)</pre>
{
    result.Append(word);
```

Print the **StringBuilder**.

## 3. Substring

On the first line, you will receive a string. On the second line, you will receive a second string. Create a program that removes all of the occurrences of the first string in the second, until there is no match. At the end print the remaining string.

## **Examples**

Input	Output			Com	ment			
ice	kgb	We	remove	"ice"	once	and	we	get
kicegiciceeb		"kgi	ciceeb"					















		We match "ice" one more time and we get "kgiceb"
		There is one more match. The finam result is "kgb"
hep	SoftuniIsGreat	
ShepoftunihepIsGrhepeat		

#### Hints

- Read the input.
- Find the first index where the key appears
  - Use the built-in method IndexOf().
- Remove the match
  - Use the built-in method Remove(index, length)
- Repeat it, until the text doesn't contain the key anymore.

### 4. Text Filter

Create a program that takes a text and a string of banned words. All words included in the ban list should be replaced with a string of asterisks '\*', whose length must be equal to the word's length. The entries in the ban list will be separated by a comma and space ", ". The ban list should be entered on the first input line and the text on the second input line.

### **Examples**

Input	Output
Linux, Windows It is not Linux, it is GNU/Linux. Linux is merely the kernel, while GNU adds the functionality. Therefore we owe it to them by calling the OS GNU/Linux! Sincerely, a Windows client	It is not *****, it is GNU/****. **** is merely the kernel, while GNU adds the functionality. Therefore we owe it to them by calling the OS GNU/****! Sincerely, a ****** client
von Richthofen, German, 80 air Manfred Albrecht Freiherr von Richthofen, known in English as Baron von Richthofen was a fighter pilot with the German Air Force during World War I. He is considered the ace-of-aces of the war, being officially credited with 80 air combat victories.	Manfred Albrecht Freiherr ***********************************

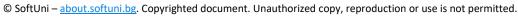
#### Hints

- Read the input.
- Replace all ban words in the text with an asterisk ('\*').
  - Use the built-in method Replace(banWord, replacement).
  - Use a new string(char ch, int repeatCount) to create the replacement

# 5. Digits, Letters and Others

Create a program that receives a single string and prints all the digits on the first line, on the second – all the letters, and on the third - all the other characters. There will always be at least one digit, one letter and one other character.



















# **Examples**

Input	Output
Agd#53Dfg^&4F53	53453
	AgdDfgF
	#^&
So%f94t34U*n&i> 37</td <td>943437</td>	943437
	SoftUni
	%* <b>&amp;</b> > </td

#### **Hints**

- Read the input.
- Use a loop to iterate through all characters in the text. If the char is digit, print it, otherwise ignore it.
  - o Use char.IsDigit(char symbol)
- Do the same for the letters and other chars.
  - o Find something like the **IsDigit** method for the letters.















