

Lab: Strings and Text Processing

1. Reverse Strings

You will be given series of strings until you receive an "end" command. Write a program that reverses strings and prints each pair on separate line in 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 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

Write 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	hihiabcbcabcbcabcdaddaddadd
work	workworkworkwork
ball	ballballballball

Solution

- Read a string array.

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

- Initialize **StringBuilder**.

```
StringBuilder result = new StringBuilder();
```

- Iterate through elements in 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++)
{
    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**. Write 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	Comment
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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"
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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

Write a program that takes a **text** and a **string of banned words**. All words included in the ban list should be replaced with **asterisks "*"**, 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

Hints

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

5. Digits, Letters and Other

Write a program that receives a **single string** and on the **first line** prints **all the digits**, 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 characters.**

Examples

Input	Output
Agd#53Dfg^&4F53	53453 AgdDfgF #^&

Hints

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