Lab: Text Processing

Problems for in-class lab for the Python Fundamentals Course @SoftUni.
Submit your solutions in the SoftUni judge system at https://judge.softuni.org/Contests/1739.

1. Reverse Strings

You will be given strings on separate lines 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 Softuni bottle end	helLo = oLleh Softuni = inutfoS bottle = elttob
Dog caT chAir end	Dog = goD caT = Tac chAir = riAhc

Hint

Read the first line and create a while loop until you receive **"end"**:

01-reverse-strings.py

```
1  text = input()
2  while text != "end":
3      text = input()
```

Now loop back through the text and add each character to a variable that stores the reversed string:

```
3      text_reversed = ""
4      for ch in reversed(text):
5          text_reversed += ch
6      print(text + " = " + text_reversed)
```

2. Repeat Strings

Write a program that reads a **sequence of strings**, separated by a single space. Each string should be repeated N times, where **N** is the **length of the string**. Print the final strings concatenated into one string.

Examples

Input	Output

hi abc add	hihiabcabcabcaddaddadd
work	workworkworkwork
ball	ballballballball

Hint

Start by reading the input and splitting it (we can receive multiple words):

02-repeat-strings.py

```
strings = input().split(" ")
result = ""
```

Loop through each word, get its length, and add the repeated word to the result:

```
for word in strings:
    length = len(word)
    result += word * length
print(result)
```

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** 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
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 finam result is "kgb"

Hints

First, read the two lines:

03-substring.py

```
first = input()
second = input()
```

Create a while loop that replaces all occurrences of the string with an empty string and print the result:

```
while first in second:
    second = second.replace(first, "")
print(second)
```

4. Text Filter

Write a program that receives a **text** and a **string of banned words**, separated by a **comma** and **space ", "**. All banned words in the text should be replaced with the number of **asterisks "*"**, equal to the word's length.

The ban list will 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 banned words and the text:

04-text-filter.py

```
banned_words = input().split(", ")
text = input()
```

Loop through all the words and replace them with "*" while they are in the text:

```
for word in banned_words:
    while word in text:
        text = text.replace(word, "*" * len(word))
print(text)
```

5. Digits, Letters, and Other

Write a program that receives a **single string**. On the **first line,** print **all the digits found in the string**, 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 #^&

Hints

Read the input and create 3 empty strings for each type:

05-digits-letters-and-other.py

```
text = input()
digits = ""
letters = ""
other = ""
```

Loop through each character and check if it is a digit, a letter, or other:

```
for ch in text:
    if ch.isdigit():
        digits += ch
    elif ch.isalpha():
        letters += ch
    else:
        other += ch
```

Print the result:

```
print(digits)
print(letters)
print(other)
```