

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 series of strings until you receive an "end" command. Write a program that reverses strings and prints each pair on 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	

Hint

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

```
01-reverse-strings.py x
1 text = input()
2 while text != "end":
3     text = input()
```

Now loop backwards 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 which 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	hihiabcbcabcbcabcdaddaddadd
work	workworkworkwork
ball	ballballballball

Hint

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

```
02-repeat-strings.py x
1 strings = input().split(" ")
2 result = ""
```

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

```
3 for word in strings:
4     length = len(word)
5     result += word * length
6 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 which **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	kgeb	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 "kgeb"

Hints

First read the two lines:

```
03-substring.py x
1 first = input()
2 second = input()
```

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

```

4 while first in second:
5     second = second.replace(first, "")
6 print(second)

```

4. Text Filter

Write a program which receives a **text** and a **string of banned words**, separated by a **comma and space** ", ". All words included in the ban list should be replaced with **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 x
1 banned_words = input().split(", ")
2 text = input()

```

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

```

3 for word in banned_words:
4     while word in text:
5         text = text.replace(word, "*" * len(word))
6 print(text)

```

5. Digits, Letters and Other

Write a program which receives a **single string**. On the **first line** it should 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 characters.

Examples

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

Hints

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

```
1 text = input()
2 digits = ""
3 letters = ""
4 other = ""
```

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

```
6 for ch in text:
7     if ch.isdigit():
8         digits += ch
9     elif ch.isalpha():
10        letters += ch
11    else:
12        other += ch
```

Print the result:

```
14 print(digits)
15 print(letters)
16 print(other)
```