5 Margarita Salas

3 points

Introduction

Margaritas Salas (1938-2019) was a Spanish renowned scientist in the fields of biochemistry and molecular genetics.

Disciple of Severo Ochoa, with whom she worked in the United States, she invented a faster, simpler and more reliable way to replicate trace amounts of DNA into quantities large enough for full genomic testing. Her invention based on Phi-29 DNA polymerase is now used widely in oncology, forensics and archaeology.

As you may know, the DNA is formed by the sequence of four bases: adenine (A), guanine (G), cytosine (C), and thymine (T). Given a DNA sequence, write down a program to replicate it as many times as requested.

Input

The input will be a pair of lines.

The first line contains the number of copies, bigger than zero, to replicate the DNA sequence.

The second line represents the DNA sequence that must be replicated.

Output

The output is the DNA sequence replicated as many times as requested.

Example 1

Input

1

ACGT

Output

ACGT

Example 2

Input

3

GATTACA

Output

GATTACAGATTACAGATTACA