1. In mathematics, the Fibonacci numbers, commonly denoted Fn, form a sequence, called the Fibonacci sequence, such that each number is the sum of the two preceding ones, starting from 0 and 1:

$$F_0 = 0, \quad F_1 = 1,$$

and

$$F_n = F_{n-1} + F_{n-2},$$

for n > 1

The beginning of the sequence is this:

0, 1, 1, 2, 3, 5, 8, 13, 21, 34, 55, 89, 144, ...

The function fastFib(num) returns the fibonacci number Fn, of the given num as an argument.

Examples

fib_fast(5) 5

fib_fast(10) 55

fib_fast(20) 6765

fib_fast(50) 12586269025

2. Create a function that takes a strings characters as ASCII and returns each characters hexadecimal value as a string.

Examples

convert_to_hex("hello world") "68 65 6c 6c 6f 20 77 6f 72 6c 64"

convert_to_hex("Big Boi") "42 69 67 20 42 6f 69"

convert_to_hex("Marty Poppinson") "4d 61 72 74 79 20 50 6f 70 70 69 6e 73 6f 6e"

3. Someone has attempted to censor my strings by replacing every vowel with a *, l*k* th*s. Luckily, I've been able to find the vowels that were removed.

Given a censored string and a string of the censored vowels, return the original uncensored string.

Example

uncensor("Wh*r* d*d my v*w*ls g*?", "eeioeo") "Where did my vowels go?"

uncensor("abcd", "") "abcd"

uncensor("*PP*RC*S*", "UEAE") "UPPERCASE"

4. Write a function that takes an IP address and returns the domain name using PTR DNS records.

Example

get_domain("8.8.8.8") "dns.google"

get_domain("8.8.4.4") "dns.google"

5. Create a function that takes an integer n and returns the factorial of factorials. See below examples for a better understanding:

Examples

fact_of_fact(4) 288
4! * 3! * 2! * 1! = 288

fact_of_fact(5) 34560

fact_of_fact(6) 24883200