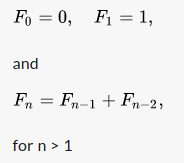
1. In mathematics, the Fibonacci numbers, commonly denoted Fn, form a sequence, called the Fibonacci sequence, such that each number is the sum of the two preceding ones, starting from 0 and 1:



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

def fib\_fast(n):

a=0

b=1

if n<=0:

return "Enter value greater than 1"

elif n==1:

return 0

elif n==2:

return 1

else:

for i in range(2,n):

c=a+b

a=b

b=c

return b

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"

def asci\_to\_hex(y):

hexx = " "

x=[ord(i) for i in y]

for i in x:

n=hex(i).lstrip("0x")

hexx += n +" "

return hexx

print(asci\_to\_hex("hello world"))

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"

def get\_domain(ip\_address):

import socket

result=socket.gethostbyaddr(ip\_address)

return list(result)[0]

print(get\_domain("13.251.106.90"))

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

def fact\_of\_fact(in\_num):

def get\_factorial(n):

if n == 1:

return 1

else:

return n\*get\_factorial(n-1)

out\_num = 1

for ele in range(1,in\_num+1):

out\_num \*= get\_factorial(ele)

print(f'fact\_of\_fact({in\_num}) ➞ {out\_num}')

in\_num = 5

fact\_of\_fact(in\_num)