Question: In Fibonacci sequence, it follows the rule that each number is equal to the sum of the preceding two numbers. Assuming the first two numbers are 0 and 1, what is the 50th number in Fibonacci sequence?

third number is 0+1=1. The fourth number is 1+1=2. The fifth number is 1+2=3. The sixth number is 2+3=5. The seventh number is 3+5=8. The eighth number is 5+8=13. ..... (Skip 1000 tokens)

The first number is 0, the second number is 1, therefore, the

fibonacci sequence[1] = 1 For i in range(3, length\_of\_fibonacci\_sequence): fibonacci sequence[i] = fibonacci sequence[i-1] + fibonacci\_sequence[i-2] ans = fibonacci\_sequence[-1] **python** 

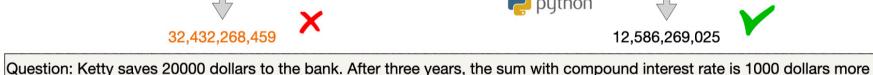
length\_of\_fibonacci\_sequence = 50

fibonacci sequence[0] = 0

interest\_rate = Symbol('x')

interest rate \* 20000 \* 3

fibonacci sequence = np.zeros(length of )



The 50th number is 32,432,268,459.

12.586.269.025

sum in two years with compound interest = 20000 \* (1 +

than the sum with simple interest rate. What is the interest rate of the bank?

Assuming the interest rate is x. The sum after two years with simple interest rate is 20000 + x \* 20000 \* 3 = 20000 +60000x. The sum after two years with compoud interest rate is  $20000 * (1 + x) ^ 3 = 200000 + 60000 * x + 60000x^2 +$ 

20000x^3. The difference can be written as 60000x^2 +

quadratic formula.  $x = (-b +- sqrt(b^2 - 4ac)) / 2a, ...., x =$ 

 $20000x^3 = 1000$ . In order to solve x, we can use the

(-20000 + -6160) / 120000, x = -0.051333.

# Since compound interest is 1000 more than simple interest. ans = solve(sum\_after\_in\_yeras\_with\_compound\_interest sum\_after\_two\_years\_in\_compound\_interest - 1000,

interest\_rate)\*\*3



sum in two years with simple interest= 20000 +



PoT

PoT

CoT interest\_rate)

CoT