Pass a list to a function:

If a user gives a list of elements you need to pass that list in a function, that function of return will give even and odd numbers which will give 2 values

Even

def count(lst):

    even = 0

    odd = 0

    for i in lst:

        if i % 2 == 0:

            even += 1

        else:

            odd += 1

    return even, odd

lst = [11,13,1,2,4,14,15,2,55]

even, odd = count(lst)

print(odd)

print(even)

print("Even : {} and Odd : {}".format(even,odd))

* Fibanocci series

A screenshot of a computer

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Q: how can we print fibanocci series using python :

Let’s start with fib(5) # we will print 5 numbers.

Now let’s build a function

Def fib(n):

Print(0)

Print(1)

Fib(5) # print it and see we should get 0 1

Now let’s get into more details as we need to print 0 1 1 2 3 5 ….. so we will expand the code by improvising our function as we need to start somewhere with 0. So let’s say a = 0

B = 1 because we know the first two numbers of fib series. Now the above code will look like something as shown below.

Def feb(n):

A = 0

B = 1

Print(a)

Print(b)

For I in range(2, n): # since we know the first 2 numbers (0 and 1) we will start with 2 and we need to go till n(till which number we need to print the fib series)

Print(a+b) # so we are adding a and b as our pattern is to add the previous number. Let’s print and see if it works. This will give 0 1 1 1 1(5 numbers as we gave fib(5)). However this is not what we are looking for. So we are missing something here.

A screenshot of a computer

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Icon

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After adding a and b we need to make sure the a and b shift to next as shown above then only we can add as expected. Again after adding 1 + 1 we need to shift the values to new a and b which is 1 and 2 this time, continue it. So in order to do it we need a third variable.

So our for loop will become something like this.

For I in range(2,n):

C = a + b # here we are adding the a and b

A = b # swap a and b

B = c # swap b and c -- now once we shift the values we have new values for a and b so we need to print(c)

Print(c)

A close-up of a calculator

Description automatically generated with medium confidence

Graphical user interface, application

Description automatically generated

Graphical user interface, application

Description automatically generated

Now run the code and see if it works.

Q: what if someone want’s the first number of fibanocci series and we give fib(1) we will get 2 values which are 0 and 1 – however we need only the first value.

We will write a if condition after a and b, and then move the code block to else:

Diagram

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def fib(n):

    a = 0

    b = 1

    if n == 1:

        print(a)

    else:

        print(a)

        print(b)

        for i in range(2,n):

            c = a + b

            a = b

            b = c

            print(c)

fib(1)

**Q: now the task is if someone enters a negative number we should check it and perform the operation.**

**Q: let’s say someone gave fib(100) we should not print the 100 fib numbers where as we need to print the number which is below hundred that is 89.**

Programs for today.

<https://www.programiz.com/python-programming/examples/shuffle-card>

<https://www.programiz.com/python-programming/examples/display-calendar>

import itertools, random

deck = list(itertools.product(range(1,14),['heart', 'spade', 'club', 'diamond']))

random.shuffle(deck)

print('You got: ')

for i in range(5):

    print(deck[i][0], "of", deck[i][1])