1) Take input of 2 numbers from user and print Fibonacci series

In [1]:
```
# enter the 1st number
x=int(input("Enter 1st no.: "))
# enter the 2nd number
y=int(input("Enter 2nd no.: "))
num=int(input("Enter upper limit no.: "))
z=x
while z<=num:
    print(z)
    x=y
    y=z
    z=x+y
```

```
Enter 1st no.: 0
Enter 2nd no.: 1
Enter upper limit no.: 45
0
1
1
2
3
5
8
13
21
34
```

2) Count number of digits in an integer entered by the user

In [2]:
```
#User input fo digits enter
num=int(input("Enter the digit: "))

#printing the result
print("Number of digits in an integer is:",len(str(num)))
```

```
Enter the digit: 12345678
Number of digits in an integer is: 8
```

3) Create a list of 5 email id's in the format

- firstname.lastname@domain **Return the employee's first name and last name from the list in below format**
- Firstname lastname

In [3]:
```
import re
# matching the pattern to find only firstname and lastname
pattern=re.compile('\w*\.\w*')

# list of email id's
email=['yash.singh@gmail.com','upendra.singh@gmail.com','raghvendra.singh@gmail.com','sh
ubham.verma@gmail.com','rudra.singh@gmail.com']

for i in email:
    #printing the email id's
    print(i)
    name=re.match(pattern,i).group()
    name.split('.')
    #printing the result as required
    print('Result:',' '.join(name.split('.')).capitalize())
    print()
```

```
yash.singh@gmail.com
Result: Yash singh

upendra.singh@gmail.com
Result: Upendra singh

raghvendra.singh@gmail.com
Result: Raghvendra singh

shubham.verma@gmail.com
Result: Shubham verma

rudra.singh@gmail.com
Result: Rudra singh
```

4) Write a Python program to create a function that takes two integers as input and returns their sum

In [4]:
```
def sum_two_integer(x,y):
    #user input
    x=int(input('Enter the 1st intger: '))
    y=int(input('Enter the 2nd intger: '))

    #printing the result from defition
    print('Sum of two intgers is:',x+y)

sum_two_integer(23,45)
```

```
Enter the 1st intger: 45
Enter the 2nd intger: 23
Sum of two intgers is: 68
```

5) Write a Python program to create a function that takes a string as input and returns the number of characters in the string.

In [5]:
```
def string_count(text):
    print('Count of characters in the string are:',len(str(text)))


string_count('abcd1234')
```

```
Count of characters in the string are: 8
```

6) Write a Python program to create a function that takes a list of numbers as input and returns the sum of all the numbers.

In [8]:
```
def sum_num():
    #User input separated by space
    numbers=input("Enter the numbers separated by space:")
    numbers_split=numbers.split(" ")
    #creating list of integers
    list_num=[int(num) for num in numbers_split]
    sum=0
    for num in list_num:
        sum+=num
    # returning the result
    return print('Sum of all numbers is:',sum)


sum_num()
```

```
Enter the numbers separated by space:1 2 3 4 5 6 7 8 9
Sum of all numbers is: 45
```

7) Write a Python program to create a function that takes a list of numbers as input and returns the average of all the numbers.

In [11]:
```
def avg_num():
    #User input separated having space
    num_input= input('Enter the numbers separated by space: ')

    num_split=num_input.split(' ')
    #creating list of integers
    numbers = [int(num) for num in  num_split]
    sum=0

    for num in numbers:
        sum+=num

    return print('Average of numbers as input is:',sum/len(numbers))

avg_num()
```

```
Enter the numbers separated by space: 1 2 3 4 5 6 7 8 9
Average of numbers as input is: 5.0
```

8) Write Python program to create a function that takes a string as input and returns a string with all the vowels removed.

In [13]:
```
def vowels_remove():
    #Enter string user input
    string=input("Enter the string here: ")


    wo_vowels=''
    for i in string:
        #to match vowels in the user input
        vowels='aeiouAEIOU'
        if i not in vowels:
            wo_vowels+=i

    return wo_vowels

vowels_remove()
```

```
Enter the string here: abcdiegfhioujklmopqrst
```

Out[13]:
```
'bcdgfhjklmpqrst'
```

9) Write a Python program to create a function that takes a list of strings as input and returns a new list with all the strings capitalized.

In [14]:
```
def capitalize_str():
    #user input separated by space
    l=input("Enter the string separated by space")
    # split at space between strings
    l_split=l.split(' ')

    list(l_split)
    #Return 1st letter capitaliza of words
    return [str(st.capitalize()) for st in l_split ]

capitalize_str()
```

```
Enter the string separated by spaceyash singh rathore
```

Out[14]:
```
['Yash', 'Singh', 'Rathore']
```

10) Write a Python program to create a function that takes a string as input and returns a string with all the words reversed.

In [15]:
```
def reversed_str():
    #user input separated by space
    string=input("Enter the string separated by space: ")
    # split at space between strings
    words=string.split(' ')
    #Reversing all the words at it's place
    l=[' '.join((word[::-1]) for word in words) ]
    return ' '.join(l)

reversed_str()
```

```
Enter the string separated by space: I am a good person.
```

Out[15]:
```
'I ma a doog .nosrep'
```

11) Write a Python program to create a function that takes a list of numbers as input and returns a new list with all the even numbers.

In [16]:
```
def even_no():
    #user input separated by space
    input_no=input('Enter number separated by space: ')
    # split at space between strings
    split_no=input_no.split()
    li=list((split_no))
    # making list of integer
    list_int=[int(num) for num in li]
    l=[]
    for num in list_int:
        if num%2==0:
            l.append(num)
    print('List of even numbers from the numbers enter as input: ',l)

even_no()
```

```
Enter number separated by space: 1 2 34 56 7 90 89 66 44
List of even numbers from the numbers enter as input:  [2, 34, 56, 90, 66, 44]
```

12) Write a Python program to create a function that takes a list of numbers as input and returns a new list with all the odd numbers.

In [17]:
```
def odd_no():
    #user input separated by space
    input_no=input('Enter number separated by space: ')
    # split at space between strings
    num_split=list(input_no.split())
    # making list of integer
    li=[int(num) for num in num_split]

    l_odd=[]

    for num in li:
        #
        if num%2!=0:
            l_odd.append(num)
    print('List of odd numbers from the numbers enter as input: ',l_odd)
odd_no()
```

```
Enter number separated by space: 1 2 3 4 56 99 75 63 51
List of odd numbers from the numbers enter as input:  [1, 3, 99, 75, 63, 51]
```

13) Write a Python program to create a function that takes a string as input and returns a string with all the characters in reverse order.

In [18]:
```
def rev_str():
    #user input separated by space
    text=input('Enter the string: ')

    print("String's all character's in reverse order: ",text[::-1])

rev_str()
```

```
Enter the string: Hello everyone good morning
String's all character's in reverse order:  gninrom doog enoyreve olleH
```

14) Write a Python program to create a function that takes a list of strings as input and returns a new list with all the strings sorted in alphabetical order.

In [19]:
```
def alp_order():
    #user input separated by space
    inp=input('Enter the string separated by space: ')

    inp_split=inp.split(' ')

    return (sorted(inp_split))
alp_order()
```

```
Enter the string separated by space: b c d e f a q e r t y w s c a
```

Out[19]:
```
['a', 'a', 'b', 'c', 'c', 'd', 'e', 'e', 'f', 'q', 'r', 's', 't', 'w', 'y']
```

15) Write a Python program to create a function that takes a list of numbers as input and returns the largest number in the list.

In [20]:
```
def max_no():
    # Get the user input
    input_string=input('Enter the numbers with space between : ')
    # Checking the space is given in between number's or not
    if ' ' in input_string:
         input_string=input_string
    else:
         input_string=' '.join(input_string)
    # making list of integer
    li=[int(num) for num in input_string.split()]

    return max(li)

max_no()
```

```
Enter the numbers with space between : 123343255469639344
```

Out[20]:
```
9
```

16) Write a Python program to create a function that takes a list of numbers as input and returns the smallest number in the list.

In [21]:
```
def min_no():
    # Get the user input
    input_string=input('Enter the numbers with space between : ')
    # Checking the space is given in between number's or not
    if ' ' in input_string:
         input_string=input_string
    else:
         input_string=' '.join(input_string)
    # making list of integer
    li=[int(num) for num in input_string.split()]

    return min(li)

min_no()
```

```
Enter the numbers with space between : 132435942642964
```

Out[21]:
```
1
```

17) Write a Python program to create a function that takes a string as input and returns a new string with all the words capitalized.

In [23]:
```
def capit_word():
    #user input separated by space
    inp=input('Enter the string: ')

    return inp.upper()

capit_word()
```

```
Enter the string: applebananamango
```

Out[23]:
```
'APPLEBANANAMANGO'
```

18) Write a Python program to create a function that takes a list of numbers as input and returns a new list with all the numbers sorted in ascending order.

In [24]:
```
def sort_asc():
    # Get the user input
    input_string=input('Enter the numbers with space between : ')
    # Checking the space is given in between number's or not
    if ' ' in input_string:
         input_string=input_string
    else:
         input_string=' '.join(input_string)
    # making list of integer
    li=[int(num) for num in input_string.split()]

    return print('Number sorted in ascending order: ',sorted(li))

sort_asc()
```

```
Enter the numbers with space between : 125457847482
Number sorted in ascending order:  [1, 2, 2, 4, 4, 4, 5, 5, 7, 7, 8, 8]
```

19) Write a Python program to create a function that takes a list of numbers as input and returns a new list with all the numbers sorted in descending order.

In [25]:
```
def sort_asc():
    # Get the user input
    input_string=input('Enter the numbers with space between : ')
    # Checking the space is given in between number's or not
    if ' ' in input_string:
         input_string=input_string
    else:
         input_string=' '.join(input_string)
    # making list of integer
    li=[int(num) for num in input_string.split()]

    return print('Number sorted in descending order: ',sorted(li,reverse=True))

sort_asc()
```

```
Enter the numbers with space between : 4913473678356738
Number sorted in descending order:  [9, 8, 8, 7, 7, 7, 6, 6, 5, 4, 4, 3, 3, 3, 3, 1]
```

20) Write a Python program to create a function that takes a string as input and returns a new string with all the vowels replaced by asterisks.

In [26]:
```
import re
def vowel_rem():
    inp=input('Enter the string: ')

    vowel_re=re.sub('[a,e,i,o,u]','*',inp)

    print('The vowels in string is replaced by aestrisks: ',vowel_re)

vowel_rem()
```

```
Enter the string: qbcaiouqwweauiocadsads
The vowels in string is replaced by aestrisks:  qbc****qww*****c*ds*ds
```

21) Write a Python program to create a function that takes a list of numbers as input and returns a new list with all the numbers squared.

In [28]:
```
def squ_no():
    # Get the user input
    input_string=input('Enter the numbers with space between : ')
    # Checking the space is given in between number's or not
    if ' ' in input_string:
         input_string=input_string
    else:
         input_string=' '.join(input_string)
    # making list of integer
    li=[int(num) for num in input_string.split()]
    # returing square of numbers in list through lambda function
    return print('Square of Numbers in list: ',list(map(lambda x:x**2,li)))

squ_no()
```

```
Enter the numbers with space between : 14134383538
Square of Numbers in list:  [1, 16, 1, 9, 16, 9, 64, 9, 25, 9, 64]
```

22) Write a Python program to create a function that takes a string as input and returns a new string with all the characters shuffled, example input is “Happy” then output can be “Apply”

In [29]:
```
import random
def shuffle_str():

    inp=input('Enter the string: ')
    char=list(inp)
    random.shuffle(char)

    return print('The string is shuffled:',"".join(char).capitalize())

shuffle_str()
```

```
Enter the string: Happy
The string is shuffled: Ahppy
```

23) Write a Python program to create a function that takes a list of integers as input and returns the sum of all the even numbers in the list.

In [30]:
```
def sum_even():
    # Get the user input
    inp=input('Enter the number with space:')
    inp_split=inp.split()
    # Checking the space is given in between number's or not
    if ' ' in inp_split:
        inp_split=inp_split

    else:
        inp_split=' '.join(inp_split)
    li=[int(num) for num in inp_split]
    print('List of integers as input: ',li)
    sum=0
    for num in li:
        if num%2==0:
            sum+=num
    return print('Sum of all the even numbers in list: ',sum)

sum_even()
```

```
Enter the number with space:431435252464264
List of integers as input:  [4, 3, 1, 4, 3, 5, 2, 5, 2, 4, 6, 4, 2, 6, 4]
Sum of all the even numbers in list:  38
```

24) Write a Python program to create a function that takes a list of integers as input and returns the sum of all the odd numbers in the list.

In [31]:
```
def sum_odd():
    # Get the user input
    inp=input('Enter the number with space:')
    inp_split=inp.split()
    # Checking the space is given in between number's or not
    if ' ' in inp_split:
        inp_split=inp_split

    else:
        inp_split=' '.join(inp_split)
    li=[int(num) for num in inp_split]
    print('List of integers as input: ',li)
    sum=0
    for num in li:
        if num%2!=0:
            sum+=num
    return print('Sum of all the even numbers in list: ',sum)

sum_odd()
```

```
Enter the number with space:3525265372332
List of integers as input:  [3, 5, 2, 5, 2, 6, 5, 3, 7, 2, 3, 3, 2]
Sum of all the even numbers in list:  34
```

25) Write a Python program to create a function that takes a list of integers as input and returns a new list with all the prime numbers in the input list.

In [32]:
```
def prime_no():
    # Get the user input
    inp=input('Enter the number with space:')
    inp_split=inp.split()
    # Checking the space is given in between number's or not
    if ' ' in inp_split:
        inp_split=inp_split

    else:
        inp_split=' '.join(inp_split)
    li=[int(num) for num in inp_split]
    print('List of integers as input: ',li)
    prime=[]
    for num in li:
        if num>1:
            for j in range(2,num):
                if num%j==0:
                    break
            else:
                prime.append(num)
    return print('List of Prime numbers from the intial list: ',prime)

prime_no()
```

```
Enter the number with space:4214135135315316
List of integers as input:  [4, 2, 1, 4, 1, 3, 5, 1, 3, 5, 3, 1, 5, 3, 1, 6]
List of Prime numbers from the intial list:  [2, 3, 5, 3, 5, 3, 5, 3]
```

26) Write a Python program to create a function that takes a list of integers as input and returns a new list with all the even numbers removed.

In [33]:
```
def even_rem():
    # Get the user input
    inp=input('Enter the number with space:')
    inp_split=inp.split()
    # Checking the space is given in between number's or not
    if ' ' in inp_split:
        inp_split=inp_split

    else:
        inp_split=' '.join(inp_split)
    li=[int(num) for num in inp_split]
    print('List of integers as input: ',li)
    even_rem=[]
    for num in li:
        if num%2!=0:
            even_rem.append(num)
    return print('List of integers afer removal of even numbers: ',even_rem)

even_rem()
```

```
Enter the number with space:846217469214921
List of integers as input:  [8, 4, 6, 2, 1, 7, 4, 6, 9, 2, 1, 4, 9, 2, 1]
List of integers afer removal of even numbers:  [1, 7, 9, 1, 9, 1]
```

27) Write a Python program to create a function that takes a list of integers as input and returns a new list with all the odd numbers removed.

In [34]:
```
def odd_rem():
    # Get the user input
    inp=input('Enter the number with space:')
    inp_split=inp.split()
    # Checking the space is given in between number's or not
    if ' ' in inp_split:
        inp_split=inp_split

    else:
        inp_split=' '.join(inp_split)
    li=[int(num) for num in inp_split]
    print('List of integers as input: ',li)
    odd_rem=[]
    for num in li:
        if num%2==0:
            odd_rem.append(num)
    return print('List of integers afer removal of odd numbers: ',odd_rem)

odd_rem()
```

```
Enter the number with space:4214335465754341
List of integers as input:  [4, 2, 1, 4, 3, 3, 5, 4, 6, 5, 7, 5, 4, 3, 4, 1]
List of integers afer removal of odd numbers:  [4, 2, 4, 4, 6, 4, 4]
```

28) Write a Python program to create a function that takes a list of integers as input and returns a new list with all the numbers doubled.

In [35]:
```
def double_no():
    # Get the user input
    input_string=input('Enter the numbers with space between : ')
    # Checking the space is given in between number's or not
    if ' ' in input_string:
         input_string=input_string
    else:
         input_string=' '.join(input_string)
    # making list of integer
    li=[int(num) for num in input_string.split()]
    # returing square of numbers in list through lambda function
    return print('Square of Numbers in list: ',list(map(lambda x:x*2,li)))

double_no()
```

```
Enter the numbers with space between : 41413535325325
Square of Numbers in list:  [8, 2, 8, 2, 6, 10, 6, 10, 6, 4, 10, 6, 4, 10]
```

29) Write a Python program to create a function that takes a list of integers as input and returns a new list with all the numbers halved.

In [36]:
```
def half_no():
    # Get the user input
    input_string=input('Enter the numbers with space between : ')
    # Checking the space is given in between number's or not
    if ' ' in input_string:
         input_string=input_string
    else:
         input_string=' '.join(input_string)
    # making list of integer
    li=[int(num) for num in input_string.split()]
    # returing square of numbers in list through lambda function
    return print('Square of Numbers in list: ',list(map(lambda x:x/2,li)))

half_no()
```

```
Enter the numbers with space between : 41421421421445753223
Square of Numbers in list:  [2.0, 0.5, 2.0, 1.0, 0.5, 2.0, 1.0, 0.5, 2.0, 1.0, 0.5, 2.
0, 2.0, 2.5, 3.5, 2.5, 1.5, 1.0, 1.0, 1.5]
```

In [ ]:
```

```