1..CITY NAMES: Write a function called city_country() that takes in the name of a city and its country. The function should return a string formatted like this: "Santiago, Chile" Call your function with at least three city-country pairs, and print the values that are returned.

In [1]:
```
def city_country(city, country):
    return city + ", " + country

print(city_country("Fasialabad", "Pakistan"))
print(city_country("Turin", "Italy"))
print(city_country("Recife", "Brazil"))
```

```
Fasialabad, Pakistan
Turin, Italy
Recife, Brazil
```

2. T-SHIRT: Write a function called make_shirt() that accepts a size and the text of a message that should be printed on the shirt. The function should print a sentence summarizing the size of the shirt and the message printed on it. Call the function once using positional arguments to make a shirt. Call the function a second time using keyword arguments.

In [6]:
```
def make_shirt(size, message):
    print(f"""Printed "{message}" on shirt of size {size}.""")

#Calling function with positional arguments
make_shirt(27, "I love Pakistan")
#Calling function with keyword arguments
make_shirt(size=27, message="I love Pakistan")
```

```
Printed "I love Pakistan" on shirt of size 27
Printed "I love Pakistan" on shirt of size 27
```

3.CITIES: Write a function called describe_city() that accepts the name of a city and its country. The function should print a simple sentence, such as Reykjavik is in Iceland. Give the parameter for the country a default value. Call your function for three different cities, at least one of which is not in the default country.

In [7]:
```
def describe_city(city, country="Pakistan"):
    print(f"{city.title()} is in {country.title()}.")

describe_city("Faisalabad")
describe_city("Karachi")
describe_city("Turin", "Italy")
```

```
Faisalabad is in Pakistan
Karachi is in Pakistan
Turin is in Italy
```

4..Make a function to find factorials of given number

In [13]:
```
def calculate_factorial(number):
    if( number == 0 ):
        print(f"Factorial of 0 is: 1")
    elif( number < 0 ):
        print(f"Factorial of negative numbers can't be computed")
    elif( number > 0 ):
        factorial = 1
        for num in range(number, 1, -1):
            factorial = factorial * num
        print(f"Factorial of {number} is: {factorial}")
    else:
        print(f"Something is wrong")

number = int(input("Enter number: "))
calculate_factorial(number)
```

```
Enter number:5
Factorial of 5 is: 120
```

5. function to find Faboocii series till given Number

In [25]:
```
def fibonacci_series(number):
    num1 = 0
    num2 = 1
    temp = 0
    for num in range(0,number):
        print(num1, end=" ")
        temp = num1 + num2
        num1 = num2
        num2 = temp

number = int(input("Enter Number: "))
fibonacci_series(number)
```

```
Enter Number: 10
0 1 1 2 3 5 8 13 21 34
```

6. function to print pair prime numbers till given input number

In [61]:
```
def prime_numbers(number):
    prime_num = []
    for num in range(2, number+1):
        for i in range(2, num):
            if num % i == 0:
                break
        else:
            prime_num.append(num)
    for i in range(len(prime_num)-1):
        if ( (prime_num[i+1] - prime_num[i]) == 2):
            print(f"( {prime_num[i]} , {prime_num[i+1]} )")

number = int(input("Enter a number: "))
prime_numbers(number)
```

```
Enter a number: 20
( 3 , 5 )
( 5 , 7 )
( 11 , 13 )
( 17 , 19 )
```

7..Make a function, that takes a list as argument, return a list of square of each elements in the argument lists and finally prints both lists.

In [62]:
```
def list_square(list1):
    listSquare = []
    for element in list1:
        listSquare.append(element**2)
    return listSquare

list1 = [2, 3, 4, 5, 6]
print(f"List 1: {list1}")
print(f"List square: {list_square(list1)}")
```

```
List 1: [2, 3, 4, 5, 6]
List square: [4, 9, 16, 25, 36]
```

In [ ]: