

Q1. Given a list of integers, write a function to return the sum of all prime numbers in that list

```
In [1]: import math
def sum(n):
    if n==0 or n==1:
        return False
    else:
        for i in range(2, int(n**0.5)+1):
            if n%i==0:
                return False
                break
            else:
                return True
def sum_prime(l):
    sum_of_primes=0
    for i in l:
        if sum(i):
            print(i)
            sum_of_primes += i
    return sum_of_primes
sum_prime([1,4,5,11,13])
```

5
11
13

Out[1]: 29

Q2. Given a list of integers ,write a function to check whether the list is strictly increasing or not.

```
In [4]: def valley(l):
n=len(l)
downhill=0
uphill=0

for i in range(0,n-1):

    if(l[i]>l[i+1]):
        downhill +=1
    else:
        if i==(n-1):
            break
        elif(l[i]<l[i+1]):
            uphill +=1
        else:
            return(False)
    return(True)
valley([3,2,1,2,3])
```

Out[4]: True

Q3. Write a function to check whether a given list is expanding or not.

```
In [10]: def expand(list,n):
count = 0
for i in range(0,n-3):
    if((list[i+1]-list[i])>(list[i+2]-list[i+1])):
        count+=1
    if(count>=1):
        print("no")
    else:
        print("yes")

list=[1,2,4,7]
n=len(list)
expand(list,n)
```

yes

Q4. Write a function to calculate all permutation of a given string.

```
In [19]: def permute(s, answer):
    if (len(s) == 0):
        print(answer, end = " ")
        return

    for i in range(len(s)):
        ch = s[i]
        left_substr = s[0:i]
        right_substr = s[i + 1:]
        rest = left_substr + right_substr
        permute(rest, answer + ch)

answer = ""

s = input("Enter the string : ")

print("All possible strings are : ")
permute(s, answer)
```

Enter the string : cdf
All possible strings are :
cdf cfd dcf dfc fcd fdc

