Assignment-5

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

In [5]:

```
def prime_sum(plist):
    psum = 0
    for i in plist:
        # 0 and 1 are not prime numbers
        if i<2:
            continue
        else:
            for j in range(2,i):
                if i%j==0:
                    break
            else:
                psum+=i
    return psum

ilist = [int(input("Value-{} : ".format(x+1))) for x in range(int(input("Enter list size :

print("Sum of all prime values : ",prime_sum(ilist))
```

```
Enter list size : 5
Value-1 : 2
Value-2 : 3
Value-3 : 4
Value-4 : 5
Value-5 : 6
Sum of all prime values :  10
```

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

In [7]:

```
def inc(lt):
    l2 = list(lt)
    l3 = set(lt)

    if len(l3)!=len(lt):
        print("Not Incresing list")
    elif l2==sorted(lt):
        print("Strictly Incresing list")
    else:
        print("Not increasing list")

l1 = [int(input("Value-{} : ".format(x+1))) for x in range(int(input("Enter list size : ")))
inc(l1)
```

```
Enter list size : 5
Value-1 : 2
Value-2 : 3
Value-3 : 6
Value-4 : 7
Value-5 : 9
Strictly Incresing list
```

3. Write a function to check whether a given list is expanding or not (the difference between adjacent elements should keep on increasing).

In [9]:

```
def expanding(l):
    dif = abs(l[1] - l[0])
    for i in range(1, len(l)-1):
        temp = abs(l[i+1] - l[i])
        if temp < dif:
            return 'list is not expanding'
        else:
            dif = temp
    return 'list is expanding'

l1 = [int(input("Value-{} : ".format(x+1))) for x in range(int(input("Enter list size : ")))
print(expanding(l1))
```

```
Enter list size : 5
Value-1 : 10
Value-2 : 20
Value-3 : 30
Value-4 : 40
Value-5 : 50
list is expanding
```

4. Write a function to calculate all permutations of a given string. (Without using itertools)

In [10]:

```
def permute_string(str):
    if len(str) == 0:
        return ['']
    prev_list = permute_string(str[1:len(str)])
    next_list = []
    for i in range(0,len(prev_list)):
        for j in range(0,len(str)):
            new_str = prev_list[i][0:j]+str[0]+prev_list[i][j:len(str)-1]
            if new_str not in next_list:
                next_list.append(new_str)
    return next_list

input_str = input("Enter string : ")
print("Number of permutations for given string :",len(permute_string(input_str)))
```

```
Enter string : Hello
Number of permutations for given string : 60
```