```python
#Program 1 :- Read two lists from the user. Two lists contain the names of students??
# ➢ Get the Names which are there in both lists??
# ➢ Get the Names which are there in atleast one list??
# ➢ Get the Names which are there in List1 not there in List2??
# ➢ Get the names which are there in List2 not there in List1??
l1=[]
a = int(input("Enter the number totlal of student you want in list 1: "))
for x in range(a):
    b = input("Enter the name of the student: ")
    l1.append(b)
print("List 1 :",l1)

l2=[]
a = int(input("Enter the number totlal of student you want in list 2: "))
for x in range(a):
    b = input("Enter the name of the student: ")
    l2.append(b)
print("List 2 :",l2)

l3=[]
for x in l1:
    if x in l2:
        l3.append(x)
print("Common students in both the lists are ",l3)

l4=[]
for y in l1:
    if y not in l2:
        l4.append(y)
print("Students only in list 1 and not in list 2 are :",l4)

l5=[]
for z in l2:
    if z not in l1:
        l5.append(z)
print("Students in list 2 but not in list 1 are :",l5)

l6=[]
for x in l1:
    if not(x in l2):
        l6.append(x)
print("students in either lists are ",l6)

# **********OUTPUT**********
# Enter the number totlal of student you want in list 1: 4
# Enter the name of the student: yash
# Enter the name of the student: Harsh
# Enter the name of the student: pranit
# Enter the name of the student: paras
# List 1 : ['yash', 'Harsh', 'pranit', 'paras']
# Enter the number totlal of student you want in list 2: 4
# Enter the name of the student: yash
# Enter the name of the student: paras
# Enter the name of the student: vedant
# Enter the name of the student: raj
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# List 2 : ['yash', 'paras', 'vedant', 'raj']
# Common students in both the lists are  ['yash', 'paras']
# Students only in list 1 and not in list 2 are : ['Harsh', 'pranit']
# Students in list 2 but not in list 1 are : ['vedant', 'raj']
# students in either lists are  ['Harsh', 'pranit']
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# Program 3:A permutation of a list is another list with the same elements, but in a possibly
# different order.
# Example: [1, 2, 1] is a permutation of [2, 1, 1], but not of [1, 2, 2].
# Write a function is permutation (list1, list2): bool that returns True if its Arguments are
#permutations of each other.
L1 = [1,2,1]
L2 = [2,1,1]

def isPermutation(list1,list2):
 if len(list1) != len(list2):
   return False
 for i in range(0, len(list1)):
   if list1.count(list1[i]) != list2.count(list1[i]):
     return False

def is_list_permutation(list1,list2):
  if (isPermutation(list1,list2) == False):
    return False
  elif not list1:
    print("they are not the permutations of each other")
  else:
    print("they are permutations of each other")

print("The lists are ",L1,L2)
print(is_list_permutation(L1,L2))

# ********OUTPUT**********
# The lists are  [1, 2, 1] [2, 1, 1]
# they are permutations of each other

#Program 4:Write a python function that checks whether a passed string is palindrome or not??

def palindrome(st):
   return st == st[ : :-1]

st = input("Enter a word to check: ")
sol = palindrome(st)

if sol:
    print(st,"is a palindrome")
else:
    print(st,"is not a palindrome")

# ********OUTPUT**********
# Enter a word to check malayalam
# malayalam is a palindrome
#Program 5 : Write a python program to count the number of even and odd numbers from a
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series of numbers??
# Sample numbers: numbers= [1, 2, 3, 4, 5, 6, 7, 8, 9]
# Expected output:
# Number of even numbers: 4
# Number of odd numbers: 5

a = int(input("Enter the number of elements you want to enter: "))
l1=[]
for i in range(a):
    b = int(input("Enter the number: "))
    l1.append(b)
print("the numbers are",l1)

eve = 0
odd = 0
for x in l1:
    if x%2 == 0:
        eve += 1
    else:
        odd += 1

print("Number of even numbers are : ", eve)
print("Number of odd numbers are : ",odd)
# *********OUTPUT*************
# Enter the number of elements you want to enter: 9
# Enter the number: 1
# Enter the number: 2
# Enter the number: 3
# Enter the number: 4
# Enter the number: 5
# Enter the number: 6
# Enter the number: 7
# Enter the number: 8
# Enter the number: 9
# the numbers are [1, 2, 3, 4, 5, 6, 7, 8, 9]
# Number of even numbers are :  4
# Number of odd numbers are :  5
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# Program 6:- Write a python program that prints all the numbers from 0 to 6 except 3 and 6?
# Note: use ‘continue ‘statement.
# Expected output: 0 1 2 4 5

for x in range(7):
    if x == 6 or x == 3:
        continue
    else:
        print(x)

# ********OUTPUT*********
# 0
# 1
# 2
# 4
# 5
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```python
# Program 7: Write a python function to check whether the given number is prime or not??
def prime():
    number = int(input("Enter any number: "))
    if number == 1:
        print("1 is neither Prime nor Composite number")
    if number > 1:
        for i in range(2, number):
            if (number % i) == 0:
                print(number, "is not a prime number")
                break
        else:
            print(number, "is a prime number")
    else:
        print(number, "is not a prime number")

prime()

# *********OUTPUT*********
# Enter any number: 10
# 10 is not a prime number
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# Program 8: Write a python function to check whether the given number is Adam number or not

number = input("Enter a number: ")
reverse = number[::-1]
number_sqr = int(number)**2
reverse_sqr = int(reverse )**2
if int(number_sqr ) == int(str(reverse_sqr)[::-1]):
   print(number," is a adam number")
else:
   print(number," is not a adam number")

# *******OUTPUT*******
# Enter a number: 12
# 12  is a adam number
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