<https://colab.research.google.com/drive/1ZNpdeGND6Cvg0hGzshxRTtFg_mzBSV4h?usp=sharing#scrollTo=4s6L1i6-tIZ8>

1. Primiti o lista de numere naturale mai mici decat 100. Sortati lista folosind functii din Python.

xs = [1,5,2,1,1,3,4,1,2]

# afisati lista sortata

xs = [1, 5, 2, 1, 1, 3, 4, 1, 2]  
xs.sort()  
print(xs)

1. Primiti o lista de numere naturale mai mici decat 100. Sortati eficient lista (vectori de frecventa).

xs = [1,5,2,1,1,3,4,1,2]

# sortati eficient lista si afisati-o

xs = [1, 5, 2, 1, 1, 3, 4, 1, 2]  
V=[0] \* 10  
  
for i in range (len(xs)):  
 V[xs[i]]=1  
  
for i in range(len(V)):  
 if V[i]==1:  
 print(i)

1. Primiti un string si o lista de cuvinte. Afisati pentru fiecare cuvant din acea lista daca apare sau nu in string.

#prop = "Ana are cinci mere si Maria ia doua mere cate mere are Ana"  
#cautate = ["are", "mere", "iar"]  
  
prop = input("Introduceti propozitia:")  
cautate = input("Introduceti cuvintele cautate:")  
cautate = cautate.split()  
for i in range (len(cautate)):  
 if cautate[i] in prop:  
 print("Cuvantul", cautate[i], "apare in sir")  
 else:  
 print("Cuvantul", cautate[i], "nu apare in sir")

1. Afisati frecventa literelor dintr-un sir: "ana are mere" => a = 3, n = 1 ...

#prop = "ana are cinci mere si maria ia doua mere cate mere are ana"  
  
prop = input("Introduceti propozitia:")  
V=[" ", ".", ",", "!", "?"]  
for i in range (len(prop)):  
 if prop[i] not in V:  
 print(prop[i],"apare de", prop.count(prop[i]))   
 V.append(prop[i])

1. Afisati frecventa cuvintelor dintr-un sir.

#s = "Ana are cinci mere si Maria ia doua mere. Cate mere are Ana?"  
  
s = input("Introduceti sirul:")  
V = [" "]  
punc = '''!()-[]{};:'"\,<>./?@#$%^&\*\_~'''  
for element in s:  
 if element in punc:  
 s = s.replace(element, "")  
s = s.split()  
for cuvant in s:  
 if cuvant not in V:  
 print(cuvant, "apare de", s.count(cuvant), "ori")  
 V.append(cuvant)

1. Primiti un string. Trebuie sa afisati pentru fiecare litera la ce pozitii apare in string (nu neaparat in ordine). Exemplu: s = “ana are mere”.

#s = "ana are mere"  
  
s = input("Introduceti string-ul:")  
V = [" "]  
for element in s:  
 pozitii = []  
 if element not in V:  
 for i in range(len(s)):  
 if s[i] == element:  
 pozitii.append(i)  
 print(element, "-", pozitii)  
 V.append(element)

1. Primiti un string. Trebuie sa afisati pentru fiecare cuvant la ce pozitii apare in string. Exemplu: s = “ana are mere si ana vrea pere”.

#s = "ana are mere si ana vrea pere"  
  
s = input("Introduceti string-ul:")  
V = []  
pozitii = []  
s = s.split()  
for i in range (len(s)):  
 if s[i] not in V:  
 V.append(s[i])  
 pozitii = []  
 for j in range (i, len(s)):  
 if s[i] == s[j]:  
 pozitii.append(j)  
 print(s[i], "-", pozitii)

1. Primiti doua cuvinte formate din litere mici. Verificati daca sunt anagrame. Exemplu: “emerit” si “treime” sunt anagrame, dar “emerit” si “treimi” nu sunt.

#s1 = "emerit"  
#s2 = "treime"  
  
s1 = input("Introduceti primul cuvant:")  
s2 = input("Introduceti cel de-al doilea cuvant:")  
litere\_egale = 0  
if len(s1) == len(s2):  
 for i in range (len(s1)):  
 if (s1.count(s1[i]) == s2.count(s1[i])):  
 litere\_egale+=1  
if litere\_egale == len(s1):  
 print("Cuvintele", s1, "si", s2, "sunt anagrame")  
else:  
 print("Cuvintele", s1, "si", s2, "nu sunt anagrame")

1. Primiti un sir de numere naturale si o serie de operatii. Operatiile sunt de 2 tipuri:

1 a b - afisati suma elementelor dintre a si b

2 a b - valoarea de pe pozitia a devine b

Pentru fiecare operatie de tip 1, afisati suma.

xs = [2, 9, 0, 5, 1, 8, 7, 3, 10, 4, 11, 6]  
ops = [  
 (1, 0, 11),  
 (2, 2, 5),  
 (1, 0, 5),  
 (1, 5, 10),  
 (2, 6, 4),  
 (1, 4, 7),  
 (1, 0, 11)  
]  
suma = 0  
for element in ops:  
 for i in range (0, len(element), 3):  
 if element[i] == 1:  
 suma = 0  
 for j in range (element[i+1],element[i+2]+1):  
 suma += xs[j]  
 print(suma)  
 else:  
 xs[element[i+1]] = xs[element[i+2]]

1. Ciurul lui Eratostene. Afisati numerele prime pana la n.

n = 100  
nr = 0  
for i in range (2,n+1):  
 nr = 0  
 for j in range (2,i):  
 if i % j == 0:  
 nr += 1  
 if nr == 0:  
 print(i)