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In [ ] : #Sort character of string first alphabet symbols followed by Digits?
ex: B4A1D3
oUPUT: ABD134

In [ ] : Python program for following requirements?
example: a4b3c2
        aaaabbbccc

In [66]: s=input()
output=""
for i in s:
    if i.isalpha():
        temp=i #a
    else:
        d=int(i)
        output=output+temp*d
print(output)

a4b4c3
aaaabbbccc

In [2]: Python program for following requirements?
example: a3z2b4
        aaabbbzz

Out[2]: -2

In [70]: s=input()
output=""
for i in s:
    if i.isalpha():
        temp=i #a
    else:
        d=int(i)
        output=output+temp*d
ans=sorted(output)
print("".join(ans))

a3z4b4
aaabbbzzzz

In [73]: #Remove duplicates from the given string
s=input()
set1=set(s)
ans=list(set1)
print("".join(ans))

aaabbbsscc
scba

In [ ] : Python program to interchange first and last elements in a list
Input : [12, 35, 9, 56, 24]
Output : [24, 35, 9, 56, 12]

Input : [1, 2, 3]
Output : [3, 2, 1]

In [42]: user_input=[int(x) for x in input().split()]
user_input[0],user_input[-1]=user_input[-1],user_input[0]
print(user_input)

10 20 30 40 50
[50, 20, 30, 40, 10]

In [ ] : Python program to swap two elements in a list
Input : List = [23, 65, 19, 90], pos1 = 1, pos2 = 3
Output : [19, 65, 23, 90]

Input : List = [1, 2, 3, 4, 5], pos1 = 2, pos2 = 5
Output : [1, 5, 3, 4, 2]

In [47]: user_input=[int(x) for x in input().split()]

user_input[0],user_input[2]=user_input[2],user_input[0]
print(user_input)

23 65 19 90
[19, 65, 23, 90]

In [ ] : Count occurrences of an element in a list
Input : list = [15, 6, 7, 10, 12, 20, 10, 28, 10]
        x = 10
Output : 3
10 appears three times in given list.

Input : list = [8, 6, 8, 10, 8, 20, 10, 8, 8]
        x = 16
Output : 0

In [48]: user_input=[int(x) for x in input().split()]
x=int(input())
user_input.count(x)

15 6 7 10 12 20 10 28 10
10
3

Out[48]:

In [ ] : Python program to find largest number in a list
Input : list1 = [10, 20, 4]
Output : 20

Input : list2 = [20, 10, 20, 4, 100]
Output : 100

In [50]: user_input=[int(x) for x in input().split()]
max(user_input)

20 10 20 4 100
100

Out[50]:

In [ ] : Python program to find smallest number in a list
Input : list1 = [10, 20, 4]
Output : 4

Input : list2 = [20, 10, 20, 4, 100]
Output : 4

In [52]: user_input=[int(x) for x in input().split()]
min(user_input)

10 20 4
4

Out[52]:

In [ ] : Python program to find second largest number in a list
Input : list1 = [10, 20, 4]
Output : 10

Input : list2 = [20, 10, 20, 4, 100]
Output : 20

In [57]: #Sorted
user_input=[int(x) for x in input().split()]
x=sorted(user_input)
x[-2]
#REMOVE THE MAXIMUM FROM THE LIST AND AGAIN FIND MAX
y=max(user_input)
user_input.remove(y)
max(user_input)

20 10 20 4 100
20

Out[57]:

In [ ] : Python program to find second smallest number in a list
Input : list1 = [10, 20, 4]
Output : 10

Input : list2 = [20, 10, 20, 4, 100]
Output : 10

In [61]: #Sorted
user_input=[int(x) for x in input().split()]
x=sorted(user_input)
x[1]
x[1]
#REMOVE THE MAXIMUM FROM THE LIST AND AGAIN FIND MAX
y=min(user_input)
user_input.remove(y)
min(user_input)

20 10 20 4 100
10

Out[61]:

In [ ] : Check if two lists have at-least one element common or not
Input : a = [1, 2, 3, 4, 5]
        b = [5, 6, 7, 8, 9]
Output : True

Input : a=[1, 2, 3, 4, 5]
        b=[6, 7, 8, 9]
Output : False

In [65]: a = [1, 2, 3, 4, 5,7,7]
b = [5, 6, 7, 8, 9,5,6]
x=set(a)
y=set(b)
z=x.intersection(y)
if len(z)>1:
    print("True")
else:
    print("False")

True

In [5]: x="a"
y=10
print(int()) #Concetation ==> join

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NameError                                Traceback (most recent call last)
Input In [5], in <cell line: 3>()
      1 x="a"
      2 y=10
----> 3 print(int(a))

NameError: name 'a' is not defined

In [ ] : dynamic language ==> we need to define the datatypes while writing the program
dynamic language ==> we need not define the datatypes while writing the program Compiler will
automatically consider the datatype at runtime

In [6]: n = int(input("num"))
fact = 1
for i in range(1,n+1):
    fact = fact*i
    print(fact)

Input In [6]
fact = 1
^
SyntaxError: invalid syntax

In [ ] : list , tuple, set dictionary m string , range() ==> For loop
conditon ==> while loop ==> non sequence

In [13]: x=10.0
y=int(x)
type(y)
y

Out[13]: 10

In [11]: ord("a")

Out[11]: 97

In [9]: chr(97)

Out[9]: 'a'

In [ ] : if month == 'december':
        astro_sign = 'Sagittarius'
        if (day < 22):
            else 'capricorn'

In [14]: x=([10,20,30,40,40],10,220)
x

Out[14]: ([10, 20, 30, 40, 40], 10, 220)

In [18]: x=([10,20,30,40],50,60)
x

Out[18]: ([10, 20, 30, 40], 50, 60)

In [23]: month=input("enter your birth month")
day=int(input("enter your birth date"))

if month == 'december':
    print('Sagittarius') if (day < 22) else print('capricorn')
elif month == 'january':
    astro_sign = 'Capricorn' if (day < 20) elif(20<day<31) 'aquarius'
elif month == 'february':
    astro_sign = 'Aquarius' if (day < 19) else 'pisces'
elif month == 'march':
    astro_sign = 'Pisces' if (day < 21) else 'aries'
elif month == 'april':
    astro_sign = 'Aries' if (day < 20) else 'taurus'
elif month == 'may':
    astro_sign = 'Taurus' if (day < 21) else 'gemini'
elif month == 'june':
    astro_sign = 'Gemini' if (day < 21) else 'cancer'
elif month == 'july':
    astro_sign = 'Cancer' if (day < 23) else 'leo'
elif month == 'august':
    astro_sign = 'Leo' if (day < 23) else 'virgo'
elif month == 'september':
    astro_sign = 'Virgo' if (day < 23) else 'libra'
elif month == 'october':
    astro_sign = 'October' if (day < 23) else 'scorpio'
    astro_sign = 'Libra' if (day < 23) else 'scorpio'

enter your birth monthdecember
enter your birth date20
Sagittarius

In [41]: list1=[]
n=int(input("Enter the number of Students"))
for i in range(0,n):
    name=input("Enter Student Name")
    rollno=int(input("Enter Students Roll"))
    Section=int(input("Enter Class of the Student"))
    print("*****STUDENT DETAILS *****")

    print("Student Name is : ",name)
    print("Student Roll No is :",rollno)
    print("Student Class :",Section)

    print("*****")
    List=["Maths","Science","Python","Hindi","English"]
    for i in List:
        ele=int(input("Enter Your Marks"))
        list1.append(ele)
        print(str(i)+" Marks are "+str(ele))

    print("*****")

    print("Total Marks : 500")
    x=sum(list1)
    y=sum(list1)/len(List)
    print("Obtained Marks are :",x)
    print("*****GRADE CARD *****")
    print("Average of the Student:",y)
    print("*****")

    if y>90 and y<100:
        print("Congratulation Your Grade is A")
        if y>95 and y<100:
            print("You are a Topper and You will get Toppers Medal")
        else:
            print("Sorry You Got A grade but You are not eligible for Medal")

    elif y>80 and y<90:
        print("You Got B Grade")

    elif y>=80 and y<70:
        print("You Got C Grade")

    elif y>70 and y<60:
        print("You Got D Grade")

    elif y>60 and y<50:
        print("You Got E Grade")

    else:
        print("Sorry You are Fail")

    print("*****")

    print("Thaking You Hope you will get Good Marks")

    print("""

Enter the number of Students1
Enter Student Namesujit
Enter Students Roll12
Enter Class of the Student12
*****STUDENT DETAILS *****
Student Name is : sujit
Student Roll No is : 12
Student Class : 12
*****GRADE CARD *****
Enter Your Marks99
Maths Marks are 99
Enter Your Marks99
Science Marks are 99
Enter Your Marks99
Python Marks are 99
Enter Your Marks99
Hindi Marks are 99
Enter Your Marks99
English Marks are 99
*****
Total Marks : 500
Obtained Marks are : 495
*****
Average of the Student: 99
*****
Congratulation Your Grade is A
*****
You are a Topper and You will get Toppers Medal
*****
Thaking You Hope you will get Good Marks

Authorization Signature

In [82]: n=int(input())
i=1
r={}
while i<=n:
    name=input("Enter your name")
    marks=int(input("Enter your Marks"))
    r[name]=marks
    i=i+1
print("Name of the Student","\t\t\t\t\t","%0f marks")
for j in r:
    print("\t",j,"\t\t\t\t\t",r[j])

2
Enter your nameravi
Enter your Marks12
Enter your namekishan
Enter your Marks23
Name of the Student          , %0f marks
    ravi                      12
    kishan                    23

In [84]: s=input("Enter the string")
for i in range(len(s)):
    print("The Forward index is",i,"and the Backward index is", (i-len(s)) , "element present is",s[i] )

Enter the stringstring
The Forward index is 0 and the Backward index is -6 element present is s
The Forward index is 1 and the Backward index is -5 element present is t
The Forward index is 2 and the Backward index is -4 element present is r
The Forward index is 3 and the Backward index is -3 element present is i
The Forward index is 4 and the Backward index is -2 element present is n
The Forward index is 5 and the Backward index is -1 element present is g

In [ ] :
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