**1. In a given list of elements, all elements are equal except the one. Write a code to find the odd man out (Stray number)**

**Answer:**

stray\_number = list(map(int,input().split()))  
last\_number = len(stray\_number)  
for i in range (1,last\_number):  
 if(stray\_number[i] == stray\_number[last\_number-1]):  
 pass  
 else:  
 print(stray\_number[i])

**2. In a given list of elements, find the elements which is close to its mean**

**Answer :**

arr=list(map(int,input().split()))  
c=0  
for i in arr:  
 c+=i  
avg=c/len(arr)  
mi=99999999  
ans=""  
for i in arr:  
 if(abs(i-avg)<mi):  
 mi=abs(i-avg)  
 ans=i  
print(ans)

**3. Find the average speed of vehicle, given the distance travelled for fixed time intervals, e.g. [0, 0.1, 0.25, 0.45, 0.55, 0.7, 0.9, 1.0]**

**Answer:**

arr = [0, 0.1,0.25, 0.45, 0.55, 0.7, 0.9, 1.0]  
length=len(arr)  
total =0  
for i in arr:  
 total +=i  
avarage = total/length  
print(avarage)

**4. Find the no. of people in a bus, given the data of people onboarding & alighting at each station**

**Answer:**

bus\_capacity = 30  
seats =0  
while(1):  
 person = int(input("If u want get into Bus Press 1 \nIf u want to get down from Bus Press 0 \nEnter your option: " ))  
 if (person ==1):  
 seats +=1  
 print("total persons in bus :",seats)  
 elif (person == 0):  
 seats -=1  
 print("total persons in bus :", seats)  
 elif (seats >= 30):  
 print("Bus Full")  
 else :  
 print(" Enter valid Option")

**5. Find the missing number, given the original list and modified one**

**Answer:**

arr = list(map(int,input().split()))  
missing\_elements = []  
for ele in range(arr[0], arr[-1]+1):  
 if ele not in arr:  
 missing\_elements.append(ele)  
print(missing\_elements)

**6. Find the difference between two lowest numbers in the list**

**Answer:**

arr = list(map(int,input().split()))  
n=len(arr)  
diff = 10 \*\* 20  
for i in range(n - 1):  
 for j in range(i + 1, n):  
 if abs(arr[i] - arr[j]) < diff:  
 diff = abs(arr[i] - arr[j])  
print("Minimum difference is:" , diff)

**7. In a given list, count no.of elements smaller than their mean**

arr = list(map(int,input().split()))  
c=0  
count=0  
for i in arr:  
 c+=i  
avg=c/len(arr)  
for i in arr:  
 if (i > avg):  
 pass  
 else:  
 count+=1  
print(count)

**1.Correct the malformed time string, for e.g "5:70:65" to "6:11:05"**

**Answer:**

t="5:70:65"  
h,min,sec=map(int,t.split(":"))  
  
if sec>60:  
 min\_quo=sec//60  
 sec=sec%60  
 min+=min\_quo  
sec=str(sec)  
if min>60:  
 hour\_quo=min//60  
 min=min%60  
 h+=hour\_quo  
min=str(min)  
if h>23:  
 h=h-23  
h=str(h)  
  
print("{}:{}:{}".format(h.zfill(2),min.zfill(2),sec.zfill(2)))

**2. Correct the malformed date string, for e.g. "45/8/2018" to "14/9/2018"**

**Answer:**

date="45/8/2018"  
days,month,year=map(int,date.split("/"))  
if month>12:  
 year+=1  
 month=month-12  
if month==2:  
 if days>28:  
 days-=28  
 month=3  
  
elif month in [4,6,9,11]:  
 if days>30:  
 month+=1  
 da=da-30  
elif month in [1,3,5,7,8,10,12]:  
 if days>31:  
 days-=31  
 if month>12:  
 month-=12  
 year+=1  
 else:  
 month+=1  
days=str(days)  
month=str(month)  
year=str(year)  
print("{}/{}/{}".format(days.zfill(2),month.zfill(2),year.zfill(4)))

**3. Convert ip address from "a.b.c.d" format into integer and vice versa**

**Answer:**

address=input()  
f=address[0]  
if f.isdigit()==True: #given input has integers  
 l=list(map(int,address.split(".")))  
 l=[chr(i) for i in l]  
 s=".".join(l)  
 print(s)  
else:  
 #given input contain characters  
 l=list(address.split("."))  
 s=""  
 for i in l:  
 s+=str(ord(i))+"."  
 s=s[:-1]  
 print(s)

**4.Check whether given string is isogram or not**

**Answer:**

s=input()  
f=1  
l=[]  
for i in range(len(s)):  
 c=0  
 for j in range(len(s)):  
 if i!=j and s[i]==s[j]:  
 c+=1  
 l.append(c+1)  
for i in l:  
 if i!=1:  
 f=0  
 break  
print(l)  
if f==1:  
 print("ISOGRAM")  
else:  
 print("NOT ISOGRAM")

**5. Given a string, find the mexican wave**

**Answer:**

s=input()  
t=s  
l=[]  
for i in range(len(s)):  
 s=t;k=""  
 for j in range(len(s)):  
 k+=s[j]  
 if i==j:  
 k=k[:-1]  
 k+=s[j].upper()  
  
 l.append(k)  
for i in l:  
 print(i,end=" ")

**6. Given a number, find the largest number by deleting single digit (order of digits will remain same)**

**Answer:**

num=int(input())  
d=1;maximum=0  
while num//d!=0:  
 s=((num//(d\*10))\*d)+(num%d)  
 d=d\*10  
 if s>maximum:  
 maximum=s  
print(maximum)

**7. Given a number, find the largest number by shuffling the digits**

**Answer:**

n=int(input())  
l=[]  
while n!=0:  
 num=n%10  
 n=n//10  
 l.append(num)  
for i in range(len(l)):  
 for j in range(i+1,len(l)):  
 if l[i]<l[j]:  
 l[i],l[j]=l[j],l[i]  
d=10;s=0  
for i in l:  
 s=(s\*d)+i  
print(s)

**8. Compute the word frequency in given message**

**Answer:**

l=[];k=[]  
s=list(input().strip().split(" "))  
for i in s:  
 c=0  
 for j in s:  
 if i==j:  
 c+=1  
 if i not in k:  
 k.append(i)  
 l.append(c)  
j=0  
for i in k:  
 print("the frequency of {} is {}".format(i,l[j]))  
 j+=1

**9. RGB to Hex conversion and vice versa, e g. (255,0.255) into OXFF00FF**

**Answer:**

conversion\_table = ['0', '1', '2', '3', '4', '5', '6', '7', '8', '9', 'A', 'B', 'C', 'D', 'E', 'F']  
  
decimal = int(input("Enter a decimal number: "))  
hexadecimal = ''  
  
while (decimal > 0):  
 remainder = decimal % 16  
 hexadecimal = conversion\_table[remainder] + hexadecimal  
 decimal = decimal // 16  
  
print("Hexadecimal: ", hexadecimal)  
  
print("-------------------------------------------------------------------------------------------------------------")  
  
hex = input("Enter Hexadecimal Number: ")  
  
c = count = i = 0  
len = len(hex) - 1  
while len >= 0:  
 if hex[len] >= '0' and hex[len] <= '9':  
 rem = int(hex[len])  
 elif hex[len] >= 'A' and hex[len] <= 'F':  
 rem = ord(hex[len]) - 55  
 elif hex[len] >= 'a' and hex[len] <= 'f':  
 rem = ord(hex[len]) - 87  
 else:  
 c = 1  
 break  
 count = count + (rem \* (16 \*\* i))  
 len = len - 1  
 i = i + 1  
  
if c == 0:  
 print("\nDecimal Value = ", count)  
else:  
 print("\nInvalid Input!")

**10. Generate accumulated strings.e.g. abcd=> A-Bb-Ccc-Dddd**

**Answer:**

s=input();c=0  
for i in range(len(s)):  
 print(s[i].upper(),end="")  
 c=0  
 while(c<i):  
 print(s[i],end="")  
 c+=1  
 if i!=len(s)-1:  
 print("-",end="")