**NUMBER SYSTEM**

**1.Program to print given number is prime or not.**

**Input:5**

**Output:5 is a prime number**

**n=int(input())**

**for i in range(2,n):**

**if n%i==0:**

**print(n,”is not prime number”)**

**break**

**else:**

**print(n,is not prime number”)**

**2.To print prime numbers between 1 to n**

**def prime(n):**

**for i in range(2,n):**

**if n % i==0:**

**return 0**

**else:**

**return 1**

**n=int(input())**

**for i in range(2,n+1):**

**if prime(i)==1:**

**print(i,end=” “)**

**3.count the no.of prime numbers between the given range**

**def prime(n):**

**for i in range(2,n):**

**if n%i==0:**

**return 0**

**else:**

**return 1**

**n=int(input())**

**count=0**

**for i in range(2,n+1):**

**if prime(i)==1:**

**count+=1**

**print(count)**

**4.To print decimal values for a given equivalent binary number**

**n=input()**

**div=1 output:**

**sum=0 1010010**

**for i in range(len(n)-1,-1,-1): 663**

**if n[i]=='1':**

**sum=div+sum**

**div=div\*2**

**print(sum)**

**[OR]**

**n = input()**

**div = 1**

**sum = 0 output:**

**i = len(n) - 1 101**

**while i >= 0: 5**

**if n[i] == '1':**

**sum += div**

**div \*= 2**

**i -= 1**

**print(sum)**

**5.To print given number or string is palindrome or not**

**s=input() output:**

**if s == s[: : -1]: madam**

**print("palindrome") palindrome**

**else: 121**

**print("not palindrome") palindrome**

**6.To print given number sum is palindrome or not**

**n=int(input())**

**while(True):**

**sum = n+int(str(n)[::-1])**

**if str(sum)== str(sum)[::-1]:**

**print(sum)**

**print(“palindrome”)**

**break**

**n=sum**

**7.To print given number is Armstrong or not**

**n=int(input())**

**pow=len(str(n))**

**sum=0**

**t=n**

**while n!=0:**

**d=n%10 output:**

**sum=sum+d\*\*pow 153**

**n=n//10 armstrong**

**if t==sum:**

**print("armstrong")**

**8.To print Armstrong numbers b/w the given range**

**def armstrong(num):**

**pow=len(str(num))**

**sum=0**

**t=num**

**while num!=0:**

**d=num%10**

**sum=sum+d\*\*pow**

**num=num//10**

**if t==sum:**

**return 1**

**else:**

**return 0**

**num=int(input())**

**for i in range(1,num+1):**

**if armstrong(i)==1:**

**print(i,end=" ")**

**9. To find factorial of given number**

**n=int(input())**

**fact=1**

**for i in range(1,n+1): output:5**

**fact=fact\*i 120**

**print(fact)**

**10.To find factorial of number in b/w range.**

**def fact(num):**

**fact=1**

**for i in range(1,num+1):**

**fact=fact\*i**

**return fact**

**n=int(input())**

**for i in range(1,n+1):**

**print(fact(i))**

**11.To find given number is strong number or not**

**Strong number: A number that is equal to sum of the factorial of its digits**

**def fact(num):**

**fact=1**

**for i in range(1,num+1):**

**fact=fact\*i output:145**

**return fact 145 is strong number**

**n=int(input())**

**sum=0**

**t=n**

**while n!=0: //using while loop// for d in str(n): //using for**

**d=n%10 sum=sum+fact(int(d))**

**sum=sum+fact(d) if n==sum:**

**n=n//10 print(n,"strong”)**

**if t==sum:**

**print(n,"is strong number")**

**12.To find strong numbers in between given range**

**def fact(num):**

**fact=1**

**for i in range(1,num+1):**

**fact=fact\*i**

**return fact output:**

**def strong(num): 1000**

**sum=0 1**

**t=num 2**

**while num!=0: 145**

**d=num%10**

**sum=sum+fact(d)**

**num=num//10**

**if t==sum:**

**return 1**

**else:**

**return 0**

**num=int(input())**

**for i in range(1,num+1):**

**if strong(i)==1:**

**print(i)**

**13.To find given number is pronic or not**

**n=int(input())**

**for i in range(1,n+1):**

**p=i\*(i+1)**

**if(p == n):**

**print("pronic")**

**break**

**if(p>n):**

**print("not pronic")**

**break**

**14.To find given number is perfect or not**

**Perfect:number is equal to sum of its divisor**

**n=int(input())**

**sum=0 output:**

**for i in range(1,(n//2)+1): 6 perfect**

**if n%i==0:**

**sum=sum+i**

**if sum==n:**

**print(n,"perfect")**

**15.To find given number is magic or not**

**n=int(input())**

**sum=0**

**for i in str(n):**

**sum=sum+int(i) output:**

**if (int(str(sum)[::-1])\*sum)==n: 1729 magic**

**print(n,"magic")**

**else:**

**print(n,"is not magic")**

**16.write a fibonaccci series upto given number n**

**n=int(input())**

**a,b,c=0,1,1 output:**

**print(a,b,end=" ") 8**

**while(c<=n): 0 1 1 2 3 5 8**

**print(c,end=" ")**

**a=b**

**b=c**

**c=a+b**

**17.write a happy number program**

**n=int(input())**

**l=[]**

**while(True):**

**sum=0**

**for i in str(n):**

**sum+=int(i)\*int(i)**

**if sum==1:**

**print("Happy")**

**break**

**if sum in l:**

**print("unhappy")**

**break**

**else:**

**l.append(sum)**

**num=sum**

**18.For the given number,we display next prime number**

**def prime(n):**

**for i in range(2,n):**

**if n%i==0:**

**return 0**

**else:**

**return 1 output:**

**n=int(input()) 7**

**r=n+1 11**

**while(True):**

**if prime(r)==1:**

**print(r)**

**break**

**r+=1**

19. Program to print given number is even or odd.

Input:2 Input:7

Output :Even Output :odd

n=int(input())

if n%2==0:

print("even")

else:

print("odd")

20.Program to find biggest number among three numbers.

Input: 2 10 6

Output:10 is big

a,b,c=map(int,input().split())

if a>=b and a>=c: a,b,c=map(int,input().split())

print("a is big") print("largest number",max(a,b,c))

if b>=a and b>=c:

print("b is big")

else:

print("c is big")

21. **write a fibonaccci series to display n elements**

**n=int(input())**

**a,b=0,1**

**for i in range(n):**

**print(a,end=" ")**

**a,b=b,b+a**

22.To display only odd numbers in Fibonacci series upto given range

n=int(input())

a,b=0,1

for i in range(n):

if a%2!=0:

print(a,end=" ")

a,b=b,b+a

22.To display only even numbers in Fibonacci series upto given range

n=int(input())

a,b=0,1

for i in range(n):

if a%2==0:

print(a,end=" ")

a,b=b,b+a

23.Program to convert decimal number to binary number.

Input:10

Output:1010

24.Program to check given year is leap year or not.

Input:2024

Output:2024 is leap year

Input:2023

Output:2023 is not a leap year

n=int(input())

if n%4==0 or n%400==0:

print(n,"is leap year")

else:

print(n,"not leap year")

# 25.Program to find gcd and lcm of given two numbers.

# Input:15 25

# Output:Gcd:5

# Lcm:75

a,b=map(int,input().split())

i,gcd=1,1

while i<b:

if a%i==0 and b%i==0:

gcd=i

i+=1

print(gcd)

print(a\*b//gcd)

1.Program to print given number is even or odd.

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a,b,c=map(int,input().split())

if a>=b and a>=c: a,b,c=map(int,input().split())

print("a is big") print("largest number",max(a,b,c))

if b>=a and b>=c:

print("b is big")

else:

print("c is big")

4. Program to print prime numbers is between m and n.

Input:10 20

Output:11 13 17 19

def prime(n):

for i in range(2,n):

if n%i==0:

return 0

else:

return 1

m,n=map(int,input().split())

count=0

for i in range(m,n):

if prime(i)==1:

print(i,end=" ")

8.Program to check given number is prime or not by performing below steps

Step 1:Reverse the given number.

Step 2:Check if reversed number is prime or not.

Input:13

Output:31 is a prime number.

def prime(n):

for i in range(2,n):

if n%i==0:

return 0

else:

return 1

n=int(input())

rev=int(str(n)[::-1])

if prime(rev)==1:

print(rev,"is prime number")

else:

print("not prime number")

9.Program to print largest and smallest prime factors of a number .

Input:56

Output:7 2

Explanation :Factors of 56 are 1,2,4,7,8,14,28

Among the factors largest prime factor is 7 and smallest prime factor is 2.

def prime(n):

for i in range(2,n):

if n % i==0:

return 0

else:

return 1

n=int(input())

l=[]

for i in range(2,n):

if n%i==0:

if prime(i)==1:

l.append(i)

print(min(l))

print(max(l))

10.Program to check if sum of individual digits of a number is prime or not.

Input:29

Output:11 is a prime number

Input:19

Output:10 is not a prime number

def prime(n):

if n<2:

return 0

for i in range(2,n):

if n%i==0:

return 0

else:

return 1

num=int(input())

s=0

for i in str(num):

s+=int(i)

print(s)

if prime(s)==1:

print(num,"is a prime")

else:

print(num,"is not prime")

11.Program to check if a number is prime power or not.

Input:16

Output:16 is a prime power.

Explanation:16 can be represented as (2^4) which is power of 2(i.e 2 prime)

Input:45

Output:45 is not a prime power.

12.Program to print sum of first n prime numbers.

Input:3

Output:10

Input:6

Output:41

def prime(n):

if n<2:

return 0

for i in range(2,n):

if n%i==0:

return 0

else:

return 1

n=int(input())

count,num,total=0,1,0

while count< n:

if prime(num)==1:

total+=num

count+=1

num+=1

print(total)

LIST

1.program to print list of elements one by one.

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

Output:10

20

30

40

50

l=list(map(int,input().split()))

for i in l:

print(i)

2.program to print the sum of all the elements of list.

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

Output: 150

l=list(map(int,input().split()))

sum=0

for i in l:

sum+=i

print(sum)

3.program to print odd index value of list.

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

Output: 10 30 50

l=list(map(int,input().split()))

for i in range(0,len(l),2):

print(l[i],end=" ")

4.program to print the sum of odd index values of list.

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

Output:60

l=list(map(int,input().split()))

sum=0

for i in range(1,len(l),2):

sum+=l[i]

print(sum)

5.program to print sum of even of index values of list.

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

Output:90

l=list(map(int,input().split()))

sum=0

for i in range(0,len(l),2):

sum+=l[i]

print(sum)

6.program to print the list in reverse order.

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

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

l=list(map(int,input().split()))

print(l[::-1])

7.program to print the reverse of individual elements of list.

Input:[23,45,56,67]

Output:[32,54,65,76]

l=list(map(int,input().split()))

l1=[]

for i in l:

l1.append(int(str(i)[::-1]))

print(l1)

8.program to print the output as follow

Input : [123,45,87,23,98,67]

Output: 33

Explanation: sum of last of each element in the list.

l=list(map(int,input().split()))

sum=0

for i in l:

sum=sum+int(str(i)[-1])

print(sum)

9.program to print the output as follow.

Input: [123,45,87,23,98,67]

Output : 30

Explanation: sum of first digit of each element in list

l=list(map(int,input().split()))

sum=0

for i in l:

sum=sum+int(str(i)[0])

print(sum)

10. program to print the output as follow

Input: [474,43583,289]

Output: 22

Explanation: sum of length//2 digit of each element in list

11.program to print the output as follows.

Input: [123,45,87,23,98,66]

Output : 23

Explanation: reverse the sum of last digit of each element.

12.program to print only prime numbers in the list

input:[1,2,3,4,5,6,7]

output:[2,3,5,7]

def prime(n):

if n==2:

return 1

for i in range(2,n):

if n%i==0:

return 0

else:

return 1

l=list(map(int,input().split()))

l1=[]

for i in l:

if prime(i)==1:

l1.append(i)

print(l1)

13. program to print only not prime numbers in the list

input:[1,2,3,4,5,6,7]

output:[1,4,6]

def prime(n):

if n==2:

return 1

if n==1:

return 0

for i in range(2,n):

if n%i==0:

return 0

else:

return 1

l=list(map(int,input().split()))

l1=[]

for i in l:

if prime(i)==0:

l1.append(i)

print(l1)

14.program to print the count of prime numbers in list.

input:[1,2,3,4,5,6,7]

output:4

def prime(n):

if n==2:

return 1

if n==1:

return 0

for i in range(2,n):

if n%i==0:

return 0

else:

return 1

l=list(map(int,input().split()))

count=0

for i in l:

if prime(i)==1:

count+=1

print(count)

15. program to print the count of prime numbers in list.

input:[1,2,3,4,5,6,7]

output:3

def prime(n):

if n==2:

return 1

if n==1:

return 0

for i in range(2,n):

if n%i==0:

return 0

else:

return 1

l=list(map(int,input().split()))

count=0

for i in l:

if prime(i)==0:

count+=1

print(count)

16.program to print the sum of prime numbers in list

input:[1,2,3,4,5,6,7]

output:17

def prime(n):

if n==2:

return 1

if n==1:

return 0

for i in range(2,n):

if n%i==0:

return 0

else:

return 1

l=list(map(int,input().split()))

sum=0

for i in l:

if prime(i)==1:

sum+=i

print(sum)

17. program to print the sum of non prime numbers in list

input:[1,2,3,4,5,6,7]

output:11

def prime(n):

if n==2:

return 1

if n==1:

return 0

for i in range(2,n):

if n%i==0:

return 0

else:

return 1

l=list(map(int,input().split()))

sum=0

for i in l:

if prime(i)==0:

sum+=i

print(sum)

18. program to print the prime numbers from the list in ascending order

input:[1,2,3,4,9,11,6,7]

output:[2,3,7,9,11]

def prime(n):

for i in range(2,n);

if n%i==0:

return 0

else:

return 1

l=list(map(int,input().split()))

l1=[]

for i in l:

if prime(i)==1:

l1.append(i)

s=sorted(l1)

print(s)

\*to print elements in ascending order

l=list(map(int,input().split()))

print(l)

for i in range(0,len(l)):

for j in range(i+1,len(l)):

if l[i]>l[j]:

temp=l[i]

l[i]=l[j]

l[j]=temp

print(l)

\*to print elements in descending order

l=list(map(int,input().split()))

print(l)

for i in range(0,len(l)):

for j in range(i+1,len(l)):

if l[i]>l[j]:

temp=l[i]

l[i]=l[j]

l[j]=temp

print(l)

19.program to print the prime numbers from the list in decending order

input:[1,2,3,4,9,11,6,7]

output:[11,9,7,3,2]

def prime(n):

for i in range(2,n):

if n%i==0:

return 0

else:

return 1

l=list(map(int,input().split()))

l1=[]

for i in l:

if prime(i)==1:

l1.append(i)

s=sorted(l1)[::-1]

print(s)

20.program to print the maximum element in the list.

input:[1,2,3,4,9,11,6,7]

output:11

l=list(map(int,input().split()))

l1=[]

for i in l:

l1.append(i)

print(max(l1))

21. .program to print the minimum element in the list.

input:[1,2,3,4,9,11,6,7]

output:1

l=list(map(int,input().split()))

l1=[]

for i in l:

l1.append(i)

print(min(l1))

\*To print maximum and minimum elements in the list

l=list(map(int,input().split()))

minnum=l[0]

maxnum=l[0]

for i in l:

if i< minnum:

minnum=i

if i > maxnum:

maxnum=i

print(maxnum)

print(minnum)

22.program to print the occurance of each and every element in the list.

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

Output: 10-1

20-2

30-3

40-2

50-1

l=list(map(int,input().split()))

l1=[]

for i in l:

if i not in l1:

l1.append(i)

for i in l1:

print(i,"-",l.count(i))

23.program to print the maximum occurred element in the list.

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

Output: 30

l=list(map(int,input().split()))

l1=[]

for i in l:

if i not in l1:

l1.append(i)

max=-1

for i in l1:

if l.count(i)>max:

max=l.count(i)

ele=i

print(ele)

24.program to print the maximum occurrence in the list.

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

Output: 3

l=list(map(int,input().split()))

l1=[]

for i in l:

if i not in l1:

l1.append(i)

maximum=-1

for i in l1:

if l.count(i)>maximum:

maximum=l.count(i)

print(maximum)

25.program to print the minimum occurred element in the list.

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

Output: 50

l=list(map(int,input().split()))

l1=[]

for i in l:

if i not in l1:

l1.append(i)

minimum=9999

for i in l1:

if l.count(i)<minimum:

minimum=l.count(i)

ele=i

print(ele)

26.program to print the minimum occurrence in the list.

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

Output: 1

l=list(map(int,input().split()))

l1=[]

for i in l:

if i not in l1:

l1.append(i)

minimum=9999

for i in l1:

if l.count(i)<minimum:

minimum=l.count(i)

print(minimum)

27.program to print the distinct elements in the list.

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

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

l=list(map(int,input().split()))

l1=[]

for i in l:

if i not in l1:

l1.append(i)

for i in l1:

if l1.count(i)==1:

print(i,end=" ")

28. program to print the count of distinct elements in the list.

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

Output: 5

l=list(map(int,input().split()))

l1=[]

count=0

for i in l:

if i not in l1:

l1.append(i)

for i in l1:

if l1.count(i)==1:

count+=1

print(count)

29. program to print the repeated elements in the list.

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

Output: [20,30,40]

l=list(map(int,input().split()))

l1=[]

for i in l:

if i not in l1:

l1.append(i)

rep\_ele=[]

for i in l1:

if l.count(i)>1:

rep\_ele.append(i)

print(rep\_ele)

30. program to print the non repeated/unique elements in the list.

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

Output: [10,50]

l=list(map(int,input().split()))

l1=[]

for i in l:

if i not in l1:

l1.append(i)

rep\_ele=[]

for i in l1:

if l.count(i)==1:

rep\_ele.append(i)

print(rep\_ele)

31. program to print the count of repeated elements in the list.

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

Output: 3

l=list(map(int,input().split()))

l1=[]

for i in l:

if i not in l1:

l1.append(i)

rep\_ele=[]

count=0

for i in l1:

if l.count(i)>1:

rep\_ele.append(i)

count+=1

print(count)

32. program to print the count of non repeated /unique elements in the list.

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

Output: 2

l=list(map(int,input().split()))

l1=[]

for i in l:

if i not in l1:

l1.append(i)

rep\_ele=[]

count=0

for i in l1:

if l.count(i)==1:

rep\_ele.append(i)

count+=1

print(count)

33. program to print the distinct elements from the list in ascending order.

Input: [10,20,30,40,60,50,20,30,50,40,30]

Output: [10,20,30,40,50,60]

l=list(map(int,input().split()))

l1=[]

for i in l:

if i not in l1:

l1.append(i)

ele=[]

count=0

for i in l1:

if l.count(i)==1:

ele.append(i)

print(sorted(ele))

34. program to print the distinct elements from the list in decending order.

Input: [10,20,30,40,60,50,20,30,50,40,30]

Output: [60,50,40,30,20,10]

l=list(map(int,input().split()))

l1=[]

for i in l:

if i not in l1:

l1.append(i)

ele=[]

count=0

for i in l1:

if l.count(i)>1:

ele.append(i)

print(sorted(ele)[::-1])

35. program to print the repeated elements from the list in ascending order.

Input: [10,20,30,40,60,50,20,30,50,40,30]

Output: [20,30,40,50]

l=list(map(int,input().split()))

l1=[]

for i in l:

if i not in l1:

l1.append(i)

ele=[]

count=0

for i in l1:

if l.count(i)>1:

ele.append(i)

print(sorted(ele))

36. program to print the not repeated elements from the list in ascending order.

Input: [10,20,30,40,60,50,20,30,50,40,30]

Output: [10,60]

l=list(map(int,input().split()))

l1=[]

for i in l:

if i not in l1:

l1.append(i)

ele=[]

count=0

for i in l1:

if l.count(i)==1:

ele.append(i)

print(sorted(ele))

37. program to print all the elements that are occurred maximum in the list.

Input: [5,3,1,7,5,1,3,5,7,4,5,9,10,1,10,1,20,30]

Output: [5,1]

l=list(map(int,input().split()))

l1=[]

for i in l:

if i not in l1:

l1.append(i)

maximum=1

for i in l1:

if l.count(i)>maximum:

maximum=l.count(i)

max\_list=[]

for i in l1:

if maximum==l.count(i):

max\_list.append(i)

print(max\_list)

38. program to print all the elements that are occurred minimum in the list.

Input: [5,3,1,7,5,1,3,5,7,4,5,9,10,1,10,1,20,30]

Output: [4,9,20,30]

l=list(map(int,input().split()))

l1=[]

for i in l:

if i not in l1:

l1.append(i)

minimum=9999

for i in l1:

if l.count(i)<minimum:

minimum=l.count(i)

min\_list=[]

for i in l1:

if minimum==l.count(i):

min\_list.append(i)

print(min\_list)

39. program to print the count of maximum occurred elements in the list.

Input: [5,3,1,7,5,1,3,5,7,4,5,9,10,1,10,1,20,30]

Output: 2

l=list(map(int,input().split()))

l1=[]

for i in l:

if i not in l1:

l1.append(i)

maximum=1

for i in l1:

if l.count(i)>maximum:

maximum=l.count(i)

max\_list=[]

count=0

for i in l1:

if maximum==l.count(i):

max\_list.append(i)

count+=1

print(count)

40. program to print the count of maximum occured elements in the list.

Input: [5,3,1,7,5,1,3,5,7,4,5,9,10,1,10,1,20,30]

Output: 4

41. program to print the maximum element in maximum occurred elements in the list.

Input: [5,3,1,7,5,1,3,5,7,4,5,9,10,1,10,1,20,30]

Output: 5

42. program to print the maximum element in minimum occurred elements in the list.

Input: [5,3,1,7,5,1,3,5,7,4,5,9,10,1,10,1,20,30]

Output: 30

43. program to print the minimum element in maximum occurred elements in the list.

Input: [5,3,1,7,5,1,3,5,7,4,5,9,10,1,10,1,20,30]

Output: 1

44. program to print the minimum element in minimum occurred elements in the list.

Input: [5,3,1,7,5,1,3,5,7,4,5,9,10,1,10,1,20,30]

Output: 4

45. program to print the maximum occurred elements from the list in ascending order.

Input: [5,3,1,7,5,1,3,5,7,4,5,9,10,1,10,1,20,30]

Output: [1,5]

46. program to print the maximum occurred elements from the list in desending order.

Input: [5,3,1,7,5,1,3,5,7,4,5,9,10,1,10,1,20,30]

Output: [5,1]

47. program to print the minimum occurred elements from the list in ascending order.

Input: [5,3,1,7,5,1,3,5,7,4,5,9,10,1,10,1,20,30]

Output: [4,9,20,30]

48. program to print the minimum occurred elements from the list in desending order.

Input: [5,3,1,7,5,1,3,5,7,4,5,9,10,1,10,1,20,30]

Output: [30,20,9,4]

49. program to print the sum of maximum occurred elements in the list .

Input: [5,3,1,7,5,1,3,5,7,4,5,9,10,1,10,1,20,30]

Output: 6

50. program to print the sum of minimum occurred elements in the list .

Input: [5,3,1,7,5,1,3,5,7,4,5,9,10,1,10,1,20,30]

Output: 63

51. program to print the maximum occurred elements from the list in reverse order.

Input: [5,3,1,7,5,1,3,5,7,4,5,9,10,1,10,1,20,30]

Output: [5,1]

52. program to print the minimum occurred elements from the list in reverse order.

Input: [5,3,1,7,5,1,3,5,7,4,5,9,10,1,10,1,20,30]

Output: [30,20,9,4]

53. program to print the absolute difference between first and last element of maximum occurred elements in the list.

Input: [5,3,1,7,5,1,3,5,7,4,5,9,10,1,10,1,20,30]

Output: 4

Explanation: the maximum occurred elements list [5,1]

First element:5

Last element:1

Absolute difference:4

54. program to print the absolute difference between first and last element of minimum occurred elements in the list.

Input: [5,3,1,7,5,1,3,5,7,4,5,9,10,1,10,1,20,30]

Output: 26

Explanation: the maximum occurred elements list [4,9,20,30]

First element:4

Last element:30

Absolute difference:26

FREQUENCY ELEMENTS IN THE LIST

**1. Write a Python program that reads a list of integers and prints the frequency of each unique**

**element in the list.**

**Input:** 5 3 1 7 5 1 3 5 7 4 5 9 10 1 10 1 20 30

**Output:** 5 - 4

3 - 2

1 - 4

7 -2

4 - 1

9 -1

10 -2

20 -1

30 -1

l=list(map(int,input().split()))

l1=[]

for i in l:

if i not in l1:

l1.append(i)

for i in l1:

print(i,"-",l.count(i))

**2. Write a Python program to find and print all the repeated elements in a given list of integers.**

**Input:** 5 3 1 7 5 1 3 5 7 4 5 9 10 1 10 1 20 30

**Output:** 5 3 1 7 10

**3. Write a Python program to find and print all the non-repeated elements from a given list of**

**integers.**

**Input:** 5 3 1 7 5 1 3 5 7 4 5 9 10 1 10 1 20 30

**Output:** 4 9 20 30

**4. Write a Python program prints only the repeated elements in ascending order**

**Input:** 5 3 1 7 5 1 3 5 7 4 5 9 10 1 10 1 20 30

**Output**: 1 3 5 7 10

**5. Write a Python program that prints only the repeated elements in descending order**

**Input:** 5 3 1 7 5 1 3 5 7 4 5 9 10 1 10 1 20 30

**Output:** 10 7 5 3 1

**6. Write a Python program prints only the non-repeated elements in ascending order**

**Input:** 5 3 1 7 5 1 3 5 7 4 5 9 10 1 10 1 20 30

**Output:** 4 9 20 30

**7. Write a Python program that prints only the non-repeated elements in descending order**

**Input:** 5 3 1 7 5 1 3 5 7 4 5 9 10 1 10 1 20 30

**Output:** 30 20 9 4

**8. Write a Python program prints the highest frequency in the list.**

**Input:** 5 3 1 7 5 1 3 5 7 4 5 9 10 1 10 1 20 30

**Output:** 4

**9. Write a Python program prints the highest frequency element in the list.**

**Input:** 5 3 1 7 5 1 3 5 7 4 5 9 10 1 10 1 20 30

**Output:** 5**10. Write a Python program prints the lowest frequency in the list.**

**Input:** 5 3 1 7 5 1 3 5 7 4 5 9 10 1 10 1 20 30

**Output:** 1

**11. Write a Python program prints the lowest frequency element in the list.**

**Input:** 5 3 1 7 5 1 3 5 7 4 5 9 10 1 10 1 20 30

**Output:** 4

**12. Write a Python program that prints all the elements that occurred the minimum number of times**

**Input:** 5 3 1 7 5 1 3 5 7 4 5 9 10 1 10 1 20 30

**Output**: 4 9 20 30

**13. Write a Python program that prints all the elements that occurred the maximum number of times**

**Input:** 5 3 1 7 5 1 3 5 7 4 5 9 10 1 10 1 20 30

**Output:** 5 1

**14. Write a Python program that prints the count of elements that occurred the maximum number of**

**times.**

Input: 5 3 1 7 5 1 3 5 7 4 5 9 10 1 10 1 20 30

Output: 2

**15. Write a Python program that prints the count of elements that occurred the minimum number of**

**times.**

**Input:** 5 3 1 7 5 1 3 5 7 4 5 9 10 1 10 1 20 30

**Output:** 4

**16. Write a Python program that prints the highest number among the elements that occurred the**

**maximum number of times.**

**Input:** 5 3 1 7 5 1 3 5 7 4 5 9 10 1 10 1 20 30

**Output:** 5

**17. Write a Python program that prints the lowest number among the elements that occurred**

**maximum number of times.**

**Input:** 5 3 1 7 5 1 3 5 7 4 5 9 10 1 10 1 20 30

**Output:** 1

**18. Write a Python program that prints the highest number among the elements that occurred**

**minimum number of times.**

**Input:** 5 3 1 7 5 1 3 5 7 4 5 9 10 1 10 1 20 30

**Output:** 30

**19. Write a Python program that prints the lowest number among the elements that occurred**

**minimum number of times.**

**Input:** 5 3 1 7 5 1 3 5 7 4 5 9 10 1 10 1 20 30

**Output:** 4**20. Write a Python program that prints the elements that occured the maximum number of times in**

**ascending order.**

**Input:** 5 3 1 7 5 1 3 5 7 4 5 9 10 1 10 1 20 30

Output: 1 5

**21. Write a Python program that prints the elements that occured the maximum number of times in**

**descending order.**

**Input:** 5 3 1 7 5 1 3 5 7 4 5 9 10 1 10 1 20 30

**Output:** 5 1

**22. Write a Python program that prints the elements that occured the minimum number of times in**

**ascending order.**

**Input:** 5 3 1 7 5 1 3 5 7 4 5 9 10 1 10 1 20 30

**Output:** 4 9 20 30

**23. Write a Python program that prints the elements that occured the minimum number of times in**

**descending order.**

**Input:** 5 3 1 7 5 1 3 5 7 4 5 9 10 1 10 1 20 30

**Output:** 30 20 9 4

**24. Write a Python program that prints the sum of all elements that occur the maximum number of**

**times.**

**Input:** 5 3 1 7 5 1 3 5 7 4 5 9 10 1 10 1 20 30

**Output:** 6

**25. Write a Python program that prints the sum of all elements that occur the minimum number of**

**times.**

**Input:** 5 3 1 7 5 1 3 5 7 4 5 9 10 1 10 1 20 30

**Output:** 63

**26. Write a Python program that prints the elements that occur the maximum number of times in**

**reverse order.**

**Input:** 5 3 1 7 5 1 3 5 7 4 5 9 10 1 10 1 20 30

**Output:** 1 5

**27. Write a Python program that prints the elements that occur the minimum number of times in**

**reverse order.**

**Input:** 5 3 1 7 5 1 3 5 7 4 5 9 10 1 10 1 20 30

**Output:** 30 20 9 4

**28. Write a Python program that prints the absolute difference between the first and last elements of**

**the maximum occurred elements.**

**Input:** 5 3 1 7 5 1 3 5 7 4 5 9 10 1 10 1 20 30

**Output:** 4

**29. Write a Python program that prints the absolute difference between the first and last elements of**

**the minimum occurred elements.**

**Input:** 5 3 1 7 5 1 3 5 7 4 5 9 10 1 10 1 20 30**Output:** 26

**30. Write a Python program that prints the distinct elements (removing duplicates) in the order they**

**appear.**

**Input:** 5 3 1 7 5 1 3 5 7 4 5 9 10 1 10 1 20 30

**Output:** 5 3 1 7 4 9 10 20 30