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In [ ]: # Function to toggle string characters
s="abc"
s.islower() # check the case of character
s.isupper()

s.lower() #check the case
s.upper()
s.split()
list(s)
```

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In [ ]: # Function to Toffle string characters

def togglestring(s):                                # Convert the string into a
    s=list(s)
    t=[]
    for c in s:
        if c.islower():
            t.append(c.upper())
        else:
            t.append(c.lower())
    return"".join(t)

togglestring("abC")
```

Problem : Duration

Input: start time , end time (HH,MM)

HH-{00,23,00, 02,03..... 23}

MM-{00,01,02,03.....59}

HH MM-{00 00, 23,59}

output: time difference in HH MM

```

In [ ]: # Calculate the time difference as total number of
        # Convert the total mintues into HH MM

s= "1 44 2 14"
def minuteDiffernce(s):
    s=s.split()
    sh=int(s[0])
    sm=int(s[1])
    eh=int(s[2])
    em=int(s[3])
    startmintues = (sh*60) + sm
    endmintues = (eh*60) +em
    return endmintues-startmintues
def outputTimeformat(mintues): #convert minutes to HH MM
    hh=minutes//60
    mm=minutes%60
    print(hh,mm)
    return
minutes=minuteDiffernce(s)
outputTimeformat(minutes)

```

play with numbers

line1 : array size(n),no of queries(q) line2 : n array elements next q lines : query -sub array of the original

5 3 1 2 3 4 5

In []:

In []:

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In [ ]: # Two strings comparision
def twoStrings(s1,s2):
    s1=sorted(s1)
    s2=sorted(s2)
    if s1==s2:
        print("YES")
    else:
        print("NO")

s=int(input())
for i in range(s):
    s1=input()
    l=s1.split()
    twoStrings(l[0],l[1])

```

In []:

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In [ ]: # prime number

def prime(n):
    for i in range(2,n):
        if n%i==0:
            return False
    return True
def generateprime(num):
    for i in range (2,num+1):
        if prime(i):
            print(i, end=" ")
    return
num=int(input())
generateprime(num)
```

```
In [ ]: # toggle string
def toggle(n):
    for i in n:
        if i==i.upper():
            s=i.lower()
        elif i==i.lower():
            s=i.upper()
        print(s,end=" ")
n=input()
toggle(n)
```

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In [ ]: #character sum
def charactersum(s):
    sum=0
    for i in range(0, len(s)):
        if s>=chr(97) and s<= chr(122) :
            sum= sum+(ord(s[i])-96)
    print(sum)
s=input(" ")
charactersum(s)
```

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In [26]: #proper number
def perfect(n):
    sum=0
    for i in range(1,n):
        if n%i==0:
            sum = sum+i
    if sum==n:
        return True
    return False
def generateperfect(num):
    for n in range(1,num):
        if perfect(n):
            print(n)
    return
num=int(input())
#n=int(input())
generateperfect(num)
```

```
50
6
28
```

```
In [4]: #count letter and divisors
def countLetters(s):
    count1=0
    count2=0
    for i in s:
        if (i.isdigit()):
            count1=count1+1
        elif (i.isalpha()):
            count2=count2+1
    print(count1)
    print(count2)
s=input()
countLetters(s)
```

```
23rewvd
2
5
```

```
In [25]: #maxremainder
def maxremainder(n):
    rem=0
    s=[]
    maxn=0
    r=0
    for i in range(1,n):
        #if n%i:
            s.append(n%i)

    #r=max(s)
    print(s)
    print(s.index(max(s)))

n=int(input())
maxremainder(n)
```

```
5
[0, 1, 2, 1]
2
```

```
In [ ]:
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def isSpecialNumber(n,p):
    if numberprimeFactors(n) >= p:
        return True
    return False

# Function to check if number is prime

def isprime(n):
    flag=1
    if n==2:
        return True
    for i in range(3,n//2+1):
        if n%i==0:
            flag=0
            return False
    if flag==1:
        return True

#Function to check if number of prime factors for a given number

def numberprimeFactors(n):
    if isprime(n):
        return 1
    count = 0
    for i in range(2,n//2+1):
        if isprime(i) and n%i == 0:
            count+=1
    return count

#numberprimeFactors(30)
isSpecialNumber(8,2)
```

