#FACTORIAL

def factorial(num):

j=1

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

j=j\*i

return j

a=int(input("enter the number"))

print("factorial of ",a ,"is " ,factorial(a))

#MULTIPLICATION TABLE

def multi(num):

i=1

for j in range (1,10+1):

print(num,"\*",j,"=",num\*j)

a=int(input("enter the number"))

multi(a)

#TECH NUMBER

def tech(num):

s=len(num)

copy=str(num)

copy=int(copy)

num=int(num)

sum=0

sq=1

if s%2==0:

while num>0:

digit=num%100

sum+=digit

num//=100

sq=sum\*\*2

if copy==sq:

return "tech number"

else:

return "not tech number"

else:

return "plaese enter the even digit number"

a=input("enter the number")

print(tech(a))

#PRIME NUMBER

def prime(num):

count=0

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

if num%i==0:

count+=1

if count==2 :

return "prime"

else:

return " composite"

a=int(input("enter the number"))

print(prime(a))

#SUM OF DIGITS

a=int(input("enter the number"))

sum=0

while a>0:

digit=a%10

sum+=digit

a//=10

print(sum)

#PALINDROME NUMBER

a=input("enter the number")

b=a[::-1]

if a==b:

print("palindrome")

else:

print("not palindrome")

#LCM AND GCD

def lcm(x,y):

if x>y:

greater=x

else:

greater=y

while(True):

if(greater%x==0 and greater%y==0):

a=greater

break

greater+=1

return a

num1=4

num2=2

c=lcm(num1,num2)

s=num1\*num2

gcd=s/c

print("Lcm=",c)

print("Gcd=",gcd)

#PRIME RANGE

def ranger(x,y):

for i in range(x,y+1):

if i>1:

for k in range(2,i):

if i%k==0:

break

else:

print(i)

num1=int(input("enter the starting number"))

num2=int(input("enter the ending number"))

print(ranger(num1,num2))

#LEAP YEAR

def leap(x):

if ((x%4==0 or x%400==0)and(x%100!=0)):

return " leap year"

else:

return "not leap year"

a=int(input("enter the year"))

print(leap(a))

#FIBONACCI

def fibonacci(num):

t1=0

t2=1

print(t1,"\n",t2)

for i in range(3,num+1):

next=t1+t2

print(next)

t1=t2

t2=next

a=int(input("enter the number"))

fibonacci(a)