

EXPERIMENT 4

Code

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#Factorial
fac=int(input("Enter number whose factorial you want: "))
into,f,a=1,1,1
while into<=fac:
    a*=into
    into+=1
print("The Factorial will be: ",a)

#Find whether the given number is Armstrong number.
num=int(input("Enter a number to check if armstrong: "))
original=num
ans=0

num1=num
digits = 0
while num1 > 0:
    num1 //= 10
    digits += 1

num1= num
while num1 > 0:
    digit=num1 % 10
    ans+=digit ** digits
    num1//= 10

if ans==original:
    print(f"{original} is an Armstrong number.")
else:
    print(f"{original} is not an Armstrong number.")

#Print Fibonacci series up to given term.

fibb = int(input("Enter the upper limit for the Fibonacci series: "))

a, b = 0, 1

print("Fibonacci series up to", fibb, ":")
while a <=fibb:
    print(a, end=" ")
    temp = a+b
    a=b
    b=temp

#Write a program to find if given number is prime number or not.
prime=int(input("\nEnter number to check prime: "))
x=2
ctr,z=0,0
while x<prime:
    if prime%x==0:
        ctr+=1
        x+=1
    else:
        z+=1
        x+=1
if ctr==0:
    print("Number is prime")
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elif ctr!=0:
    print("Not prime")

#Check whether given number is palindrome or not.
pal=int(input("Enter a number to check if it is a palindrome: "))

origin=pal
reverse = 0

while pal > 0:
    digit = pal % 10
    reverse = reverse * 10 + digit
    pal = pal // 10

if origin == reverse:
    print(f"{origin} is a palindrome num.")
else:
    print(f"{origin} is not a palindrome num.")

#sum of digits

no=int(input("Enter a number to calculate the sum of its digits: "))

sum = 0

# Calculate the sum of digits using a while loop
while no > 0:
    digit=no % 10
    sum+= digit
    no= no // 10

print(f"The sum of the digits is: {sum}\n")

#Count and print all numbers divisible by 5 or 7 between 1 to 100.
n,ct1,ct2=1,0,0
while n<=100:
    if n%5==0:
        print(f"{n} is divisible by 5")
        ct1+=1
    elif n%7==0:
        print(f"{n} is divisible by 7")
        ct2+=1
    n+=1

print(f"\n{ct1} nos are divisible by 5")
print(f"{ct2} nos are divisible by 7")

#Convert all lower cases to upper case in a string.
str=input("Input string to convert lower case to upper case: ")
uc=str.upper()
print(uc)

#Print all prime numbers between 1 and 100.
# prime=1
# x=100
# ctr,z,n=1,0,0
# while prime<100:
#     if prime%n==0:
#         print(f"{prime} is prime!")
#         ctr+=1

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#     n+=1
#     else:
#         z+=1
#         n+=1
num = 2
print("Prime numbers between 1 and 100:")

while num<=100:
    prime = True

    d = 2
    while d * d <= num:
        if num % d == 0:
            prime = False
            break
        d += 1
    if prime:
        print(f"{num} ")
    num+=1

# Print the table for a given number
tt=int(input("Enter no. to get the table: "))
var=1
while var<11:
    print(f"{tt} x {var} = {tt*var}")
    var+=1

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OUTPUT

Enter number whose factorial you want: 3
 The Factorial will be: 6
 Enter a number to check if armstrong: 153
 153 is an Armstrong number.
 Enter the upper limit for the Fibonacci series: 5
 Fibonacci series up to 5 :
 0 1 1 2 3 5
 Enter number to check prime: 3
 Number is prime
 Enter a number to check if it is a palindrome: 121
 121 is a palindrome num.
 Enter a number to calculate the sum of its digits: 123
 The sum of the digits is: 6

5 is divisible by 5
 7 is divisible by 7
 10 is divisible by 5
 14 is divisible by 7
 15 is divisible by 5
 20 is divisible by 5
 21 is divisible by 7
 25 is divisible by 5
 28 is divisible by 7
 30 is divisible by 5
 35 is divisible by 5
 40 is divisible by 5
 42 is divisible by 7
 45 is divisible by 5
 49 is divisible by 7
 50 is divisible by 5
 55 is divisible by 5

56 is divisible by 7
60 is divisible by 5
63 is divisible by 7
65 is divisible by 5
70 is divisible by 5
75 is divisible by 5
77 is divisible by 7
80 is divisible by 5
84 is divisible by 7
85 is divisible by 5
90 is divisible by 5
91 is divisible by 7
95 is divisible by 5
98 is divisible by 7
100 is divisible by 5

20 nos are divisible by 5
12 nos are divisible by 7
Input string to convert lower case to upper case: Upes
UPES

Prime numbers between 1 and 100:

2
3
5
7
11
13
17
19
23
29
31
37
41
43
47
53
59
61
67
71
73
79
83
89
97

Enter no. to get the table: 6

$6 \times 1 = 6$
 $6 \times 2 = 12$
 $6 \times 3 = 18$
 $6 \times 4 = 24$
 $6 \times 5 = 30$
 $6 \times 6 = 36$
 $6 \times 7 = 42$
 $6 \times 8 = 48$
 $6 \times 9 = 54$
 $6 \times 10 = 60$