GARGI MEMORIAL

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SUBJECT- PYTHON ASSIGNMENT

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Q1) GCD OF 2 NO

num1 = int(input("Enter first number"))

num2 = int(input("Enter second number"))

a = num1

b = num2

while(num2 != 0):

temp = num2

num2 = num1 % num2

num1 = temp

gcd = num1

print(gcd)

OUTPUT:

Enter first number18

Enter second number12

6

Q2) CHECK A NO IS PRIME OR NOT

number=int(input("Enter a number"))

y=number//2

if number>1:

for i in range(2,y):

if(number%i)==0:

print(number,"is not a prime number")

break

else:

print(number,"is a prime number")

break

else:

print(number,"is not a prime number")

OUTPUT:

Enter a number14

14 is not a prime number

Q3) DISPLAY TWIN PRIME WITHIN A RANGE

def is\_prime(n):

for i in range(2, n):

if n % i == 0:

return False

return True

def generate\_twins(start, end):

for i in range(start, end):

j = i + 2

if(is\_prime(i) and is\_prime(j)):

print("{:d} and {:d}".format(i, j))

generate\_twins(2, 11)

OUTPUT:

(3,5)

(7,11)

Q4)DISPALY NON FIBONACCI NO WITHIN A RANGE

import math

def ps(x)

s=int(math.sqrt(x))

return s\*s==x

def isFib(n)

return ps(5\*n\*n+4) or ps(5\*n\*n-4)

llimit=int(input("Enter the lower limit:"))

ulimit=int(input("Enter the upper limit:"))

for i in range(1,21)

if(isFib(i)== False):

print(i,"is not a Fibonacci Number")

Q5) CHECK KRISHNAMURTI NO 145->1!+4!+5!

def factorial(n):

fact=1

while(n!=0):

fact=fact\*n

n=n-1

return fact

def Krishnamurthy(n):

s=0

temp=n

while(temp!=0):

rem=temp%10

s=s+factorial(rem)

temp=temp//10

return(s==n)

n=int(input("Enter a number to check if it's a Krishnamurthy number or not: "))

if(Krishnamurthy(n)):

print("Krishnamurthy Number.")

else:

print("Not a Krishnamurthy Number.")

OUTPUT:

Enter a number to check if it's a Krishnamurthy number or not: 145

Krishnamurthy Number

Q6) CHECK NO IS PRIME PALINDROM OR NOT

def oneDigit(num):

return (num >= 0 and num < 10);

def isPalUtil(num, dupNum):

if (oneDigit(num)):

return (num == (dupNum) % 10);

if (not isPalUtil(int(num / 10), dupNum)):

return False;

dupNum =int(dupNum/10);

return (num % 10 == (dupNum) % 10);

def isPal(num):

if (num < 0):

num = -num;

dupNum = num;

return isPalUtil(num, dupNum);

def printPalPrimesLessThanN(n):

prime = [True] \* (n + 1);

p = 2;

while (p \* p <= n):

if (prime[p]):

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

prime[i] = False;

p += 1;

for p in range(2, n + 1):

if (prime[p] and isPal(p)):

print(p, end = " ")

n =int(input("Enter number:"))

print("Palindromic primes smaller",

"than or equal to", n, "are :")

printPalPrimesLessThanN(n)

Q7) CHECK NO IS PALINDROM OR NOT.

n=int(input("Enter number:"))

temp=n

rev=0

while(n>0):

dig=n%10

rev=rev\*10+dig

n=n//10

if(temp==rev):

print("The number is a palindrome!")

else:

print("The number isn't a palindrome!")

OUTPUT:

Enter number121

The number is a palindrome!

Q8) CHECK NO IS PERFECT NO OR NOT

n = int(input("Enter any number: "))

sum1 = 0

for i in range(1, n):

if(n % i == 0):

sum1 = sum1 + i

if (sum1 == n):

print("The number is a Perfect number!")

else:

print("The number is not a Perfect number!")

OUTPUT:

Enter any number:81

The number is a Perfect number!

Q9) A POWER M

def power(base,exp):

if(exp==1):

return(base)

else:

return(base\*power(base,exp-1))

base=int(input("Enter base:"))

exp=int(input("Enter exponential value:"))

print("Result:",power(base,exp))

OUTPUT:

Enter base:2

Enter exponential value:3

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Q10) CALCULATE FACTOR OF A NO

def print\_factors(x):

print("The factors of",x,"are:")

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

if x % i == 0:

print(i)

num=int(input("Enter number to find it's factors:"))

print\_factors(num)

OUTPUT:

Enter number to find it's factors:15

1

5

15

Q11) CHECK NO IS ARMSTRONG NO OR NOT

num = int(input("Enter the number: "))

sum = 0

temp = num

while (temp > 0):

digit = temp % 10

sum += digit \*\* 3

temp //= 10

if (num == sum):

print("Armstrong number")

else:

print("Not an Armstrong number")

OUTPUT:

Enter the number:153

Armstrong number

Q12) FIBONACCI SERIES

n = int(input("Enter the value of 'n': "))

a = 0

b = 1

sum = 0

count = 1

print("Fibonacci Series: ", end = " ")

while(count <= n):

print(sum, end = " ")

count += 1

a = b

b = sum

sum = a + b

OUTPUT:

Enter the value of 'n':5

1 1 2 3 5

Q13) Lucas No

def lucas(n):

if n==0:

return 2

if n==1:

return 1

return lucas(n-1) + lucas(n-2)

num=int(input("Enter nth term:"))

print(lucas(num))

OUTPUT:

Enter the nth term:5

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