1. Write a Python program to check if the given number is a Disarium Number?

def calculate\_lenght(n):

lenght = 0

while n>0:

n = n//10

lenght = lenght+1

return lenght

rem= sum = 0

num = int(input("Enter a disrium number : "))

len = calculate\_lenght(num)

n = num

while num > 0:

rem = num%10

sum = sum + int(rem\*\*len)

num = num//10

len = len -1

if n ==sum:

print(str(n), "this is a disarium number")

else:

print(str(n), "this is not a disarium number")

1. Write a Python program to print all disarium numbers between 1 to 100?

def calculate\_lenght(n):

lenght = 0

while n>0:

n = n//10

lenght = lenght+1

return lenght

def sumofdigit(num):

rem= sum = 0

len = calculate\_lenght(num)

while (num > 0):

rem = num%10

sum = sum + int(rem\*\*len)

num = num//10

len = len -1

return sum

result= 0

for i in range(1, 101):

if i ==sumofdigit(i):

print(i)

1. Write a Python program to check if the given number is Happy Number?

num = int(input("enter a happy number : "))

def happy\_number(num):

rem = sum = 0

while num > 0:

rem = num%10

sum = sum+(rem\*rem)

num = num//10

return sum

result = num

while result!=1 and result!=4:

result = happy\_number(result)

if result==1:

print(str(num)+ " this is a happy number")

elif result==4:

print(str(num) + " this is not a happy number")

1. Write a Python program to print all happy numbers between 1 and 100?

def happy\_number(num):

rem = sum = 0

while num>0:

rem = num%10

sum = sum+(rem\*rem)

num = num//10

return sum

for i in range(1,101):

result = i

while (result!=1) and (result!=4):

result = happy\_number(result)

if result==1:

print(i)

1. Write a Python program to determine whether the given number is a Harshad Number?

num = int(input("enter a Harshad number : "))

rem=sum=0

n = num

while (num>0):

rem = num%10

sum = sum+rem

num = num//10

if (n%sum==0):

print(str(n), "this is harshad number " )

else:

print("no harshad number")

1. Write a Python program to print all pronic numbers between 1 and 100?

def pronic\_number(n):

temp = False

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

if (j\*(j+1)==n):

temp = True

break

return temp

for i in range(1, 101):

if(pronic\_number(i)):

print(i)