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

def check\_disariumnum(n):

sum=0

n=input('enter number')

for i in range(len(str(n))):

sum+=int(str(n[i]))\*\*(i+1)

if sum==int(n):

print(f'{n} is disarium number')

else:

print(f'{n} is not a disarium number')

check\_disariumnum(5)

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

def print\_all\_disarium(start=0,end=100):

l=[]

for i in range(start,end+1):

sum=0

for j in range(len(str(i))):

sum+=int(str(i)[j])\*\*(j+1)

if sum==i:

l.append(i)

return l

print\_all\_disarium(1,100)

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

def check\_happy(n):

s=set()

while n!=1:

n=sum(int(i)\*\*2 for i in str(n))

if n in s:

return f'{n} is not happy number'

s.add(n)

return f'{n} is happy number'

n=input('enter number:')

check\_happy(n)

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

def checkHappyNumber(start=0,end=100):

happyNumbersList = []

for num in range(start,end+1):

num = str(num)

numholder = num

s = set()

while True:

if num != '1' and str(num) not in s:

s.add(num)

sum = 0

for ele in range(len((num))):

sum = sum + int(num[ele])\*\*2

num = str(sum)

elif str(num) in s:

break

else:

happyNumbersList.append(int(numholder))

break

print(f'The Happy Numbers between {start} and {end} are {happyNumbersList}')

checkHappyNumber(0,100)

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

def checkHarshadNumber():

in\_num = input('Enter a Number: ')

sum = 0

for item in range(len(in\_num)):

sum = sum + int(in\_num[item])

if int(in\_num)%sum == 0:

print(f'{in\_num} is a Harshad Number')

else:

print(f'{in\_num} is a Not Harshad Number')

checkHarshadNumber()

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

def printPronicNumbers(start=0,end=100):

outputList = []

for ele in range(start,end+1):

outputList.append((ele)\*(ele+1))

print(outputList)

printPronicNumbers()