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

from functools import reduce

import numpy as np

def dysarium(number):

numberstr = str(number)

k = np.zeros(len(numberstr))

z = []

for i in range(0,len(numberstr)):

k[i] = i + 1

for i in numberstr:

z.append(int(i))

z = np.array(z)

k = z\*\*k

if reduce(lambda x,y:x+y,k) == number:

return 'yes'

else:

return 'no'

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

for i in range(1,100):

numberstr = str(i)

k = np.zeros(len(numberstr))

z = []

for j in range(0,len(numberstr)):

k[j] = j+ 1

for b in numberstr:

z.append(int(b))

z = np.array(z)

k = z\*\*k

if reduce(lambda x,y:x+y,k) == i:

print(i)

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

from functools import reduce

import numpy as np

def squared(number):

numberstr = str(number)

l = []

for i in numberstr:

l.append(int(i))

k = reduce(lambda x,y:x\*\*2+y\*\*2,l)

return k

def happy(number):

var1 = number

var2 = number

while True:

var1 = squared(var1)

var2 = squared(squared(var2))

if var1 != var2:

continue

else:

break

return var1 == 1

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

for i in range(1,100):

var1 = i

var2 = i

while True:

var1 = squared(var1)

var2 = squared(squared(var2))

if var1 != var2:

continue

else:

print(i)

break

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

from functools import reduce

import numpy as np

def harshad(number):

numberstr = str(number)

l = []

for i in numberstr:

l.append(int(i))

k = reduce(lambda x,y: x+y,l)

if number % k == 0:

return "yes"

else:

return 'no'

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

def prionic(number):

i = 0

while i < number:

b = i\*(i+1)

if number == b:

return "yes"

i = i+1

return'No'

for i in range(0,100):

if prionic(i)=='yes':

print(i)