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

def checkDisariumNumber():

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

sum = 0

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

sum = sum + int(in\_num[item])\*\*(item+1)

if sum == int(in\_num):

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

else:

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

checkDisariumNumber()

checkDisariumNumber()

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

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

output\_num = []

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

sum = 0

for item in range(len(str(number))):

sum = sum + int(str(number)[item])\*\*(item+1)

if sum == number:

output\_num.append(number)

return output\_num

printDisariumNumbers(1,1000)

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

def checkHappyNumber():

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

in\_num\_duplicate = in\_num

trackNumber = set()

while True:

if in\_num != '1' and str(in\_num) not in trackNumber:

trackNumber.add(in\_num)

sum = 0

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

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

in\_num = str(sum)

elif str(in\_num) in trackNumber:

print(f'{in\_num\_duplicate} is not a Happy Number')

break

else:

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

break

checkHappyNumber()

checkHappyNumber()

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

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

happyNumbersList = []

for in\_num in range(start,end+1):

in\_num = str(in\_num)

inum\_holder = in\_num

trackNumber = set()

while True:

if in\_num != '1' and str(in\_num) not in trackNumber:

trackNumber.add(in\_num)

sum = 0

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

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

in\_num = str(sum)

elif str(in\_num) in trackNumber:

break

else:

happyNumbersList.append(int(inum\_holder))

break

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

checkHappyNumber(0,100)

* 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()

checkHarshadNumber()

* 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()