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

def check\_disarium(n):

s=n

sum1=0

l=len(str(n))

for i in range(l):

sum1+=pow(n%10,l-i)

n=n//10

if s==sum1:

print('the number is disarium number')

else:

print('the number is not disarium number')

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

def check\_disarium():

for n in range(100):

s=n

sum1=0

l=len(str(n))

for i in range(l):

sum1+=pow(n%10,l-i)

n=n//10

if s==sum1:

print(f'the {s} is disarium number')

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

def isHappynumber(n):

if n == 1 or n == 7:

return True

Sum, x = n, n

# This loop executes till the sum

# of square of digits obtained is

# not a single digit number

while Sum > 9:

Sum = 0

# This loop finds the sum of

# square of digits

while x > 0:

d = x % 10

Sum += d \* d

x = int(x / 10)

if Sum == 1:

return True

x = Sum

if Sum == 7:

return True

return False

n = 13

if isHappynumber(n):

print(n, "is a Happy number")

else:

print(n, "is not a Happy number")

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

def isHappyNumber(num):

rem = sum = 0

while(num > 0):

rem = num%10;

sum = sum + (rem\*rem)

num = num//10;

return sum;

print("List of happy numbers between 1 and 100: ")

for i in range(1, 101):

result = i;

#Happy number always ends with 1 and

#unhappy number ends in a cycle of repeating numbers which contains 4

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

result = isHappyNumber(result);

if(result == 1):

print(i)

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

def harshad(n):

s=n

sum1=0

while n!=0:

sum1+=n%10

n=n//10

if s%sum1==0:

print('the number is harshad number')

else:

print('the number is not harshad number')

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

pronic=[]

for i in range(10):

pronic.append(i\*(i+1))

print('pronic numbers between 1 to 100 are - \n',pronic)