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

num = int(input("Enter a Number: "))

result = 0

num\_list = [int(i) for i in str(num)]

for i in range(len(num\_list)):

result += num\_list[i]\*\*(i+1)

if(num == result):

print("RESULT: DISARIUM NUMBER")

else:

print("RESULT: NOT A DISARIUM NUMBER")

>>> Enter a Number: 89

RESULT: DISARIUM NUMBER

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

start = int(input("Enter a Start Interval: "))

end = int(input("Enter a End Interval: "))

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

result = 0

num\_list = [int(i) for i in str(number)]

for i in range(len(num\_list)):

result += num\_list[i]\*\*(i+1)

if(number == result):

print("RESULT: ",number," IS A DISARIUM NUMBER")

else:

pass

>>> Enter a Start Interval: 10

Enter a End Interval: 200

RESULT: 89 IS A DISARIUM NUMBER

RESULT: 135 IS A DISARIUM NUMBER

RESULT: 175 IS A DISARIUM NUMBER

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

def isHappyNumber(n):

digit = sum = 0

while(n > 0):

digit = n % 10

sum = sum + (digit \* digit)

n = n // 10

return sum

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

result = num

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

result = isHappyNumber(result)

if(result == 1):

print(num, "is a Happy Number.")

else:

print(num, "is an Unhappy Number.")

>>> Enter a number: 69

69 is an Unhappy Number.

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

def isHappyNumber(n):

digit = sum = 0

while(n > 0):

digit = n % 10

sum = sum + (digit \* digit)

n = n // 10

return sum

start = int(input("Enter a Start Interval: "))

end = int(input("Enter a End Interval: "))

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

result = number

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

result = isHappyNumber(result)

if(result == 1):

print(number, "is a Happy Number.")

else:

pass

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

num = int(input("Enter a Number: "))

sum\_num = sum([int(i) for i in str(num)])

if(num % sum\_num == 0):

print(num, "IS A HARSHAD NUMBER.")

else:

print(num, "IS NOT A HARSHAD NUMBER.")

>>> Enter a Number: 122

122 IS NOT A HARSHAD NUMBER.

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

def isPronicNumber(num):

flag = False;

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

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

flag = True;

break;

return flag;

print("Pronic numbers between 1 and 100: ");

for i in range(1, 101):

if(isPronicNumber(i)):

print(i)

>>> Pronic numbers between 1 and 100:

2

6

12

20

30

42

56

72

90