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

Ans : def calculateLength(n):

length = 0;

while(n != 0):

length = length + 1;

n = n//10;

return length;

num = 175;

rem = sum = 0;

len = calculateLength(num);

#Makes a copy of the original number num

n = num;

def calculateLength(n):

length = 0;

while(n != 0):

length = length + 1;

n = n//10;

return length;Ans :

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

Ans : def calculateLength(n):

length = 0;

while(n != 0):

length = length + 1;

n = n//10;

return length;

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

Ans : def isHappyNumber(num):

rem = sum = 0;

#Calculates the sum of squares of digits

while(num > 0):

rem = num%10;

sum = sum + (rem\*rem);

num = num//10;

return sum;

#Displays all happy numbers between 1 and 100

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

for i in range(1, 101):

result = i;

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

Ans : num = 156;

rem = sum = 0;

#Make a copy of num and store it in variable n

n = num;

#Calculates sum of digits

while(num > 0):

rem = num%10;

sum = sum + rem;

num = num//10;

#Checks whether the number is divisible by the sum of digits

if(n%sum == 0):

print(str(n) + " is a harshad number");

else:

print(str(n) + " is not a harshad number");

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

Ans : def isPronicNumber(num):

flag = False;

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

#Checks for pronic number by multiplying consecutive numbers

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

flag = True;

break;

return flag;

#Displays pronic numbers between 1 and 100

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

for i in range(1, 101):

if(isPronicNumber(i)):

print(i),

print(" "),