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

n = int(input("please enter the number : "))

sum = 0

length=0

b=0

a=0

num =n

actual\_num=num

while n!=0:

length=length+1

n=n//10

for i in range(length,0,-1):

b=num%10

b=b\*\*i

sum=sum+b

num=num//10

if (actual\_num==sum):

print(actual\_num, "is disarium number")

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

def cal\_len(n):

length = 0

while(n != 0):

length = length + 1

n = n // 10

return length

def sumd(num):

rem = 0

sum = 0

len = cal\_len(num)

while num > 0):

rem = num % 10

sum = sum + (rem \*\* len)

num = num // 10

len = len - 1

return sum

res = 0

for i in range(1, 101):

res = sumd(i)

if(res == i):

print(i)

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

n = int(input("enter a number : "))

def ss(n):

sum = 0

num = n

a = 0

while n > 0 :

a = n % 10

sum = sum + a \* a

n = n // 10

return sum

a = n

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

a=ss(a)

if a==1:

print(n," is happy number")

else:

print(n,'is not happy number')

o\p - enter a number : 32

32 is happy number

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

def happy\_num(n):

sum = 0

a = 0

while n > 0 :

a = n % 10

sum = sum + a \* a

n = n // 10

return sum

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

for i in range(1, 101):

a = i

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

a = happy\_num(a)

if a == 1:

print(i)

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

n = int(input("enter a number : "))

sum = 0

r = 0

num = n

while(n > 0) :

r = n % 10

sum = sum + r

n = n // 10

if (num % sum == 0) :

print(num, " is harsad number")

else :

print(num," is not harsad number")

o/t - enter a number : 156

156 is harsad number

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

def pro\_num(num):

flag = False

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

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

flag = True

break

return flag

print("pronic numbers between 1 and 100: ")

for n in range(1, 101):

if(pro\_num(n)):

print(n)

o\p - pronic numbers between 1 and 100:

2

6

12

20

30

42

56

72

90