**Programming Assignment\_9**

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

**Ans:**

def task1(num):

try:

if type(num) != int:

raise Exception("Not an integer")

num = str(num)

total = 0

for i in range(0, len(num)):

n = int(num[i])

n = n\*\*(i+1)

total = total + n

if total == int(num):

return True

else:

return False

except Exception as e:

print(e)

task1(147)

task1(135)

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

**Ans:**

for i in range(1, 101):

if task1(i) == True:

print(i, end = ' ')

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

**Ans:**

def task3(num):

res = num;

def isHappy(num):

r = 0;

s = 0

while(num > 0):

r = num%10

s += r\*\*2

num //= 10

return s

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

res = isHappy(res)

if(res == 1):

return True

elif(res == 4):

return False

task3(100)

task3(4)

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

**Ans:**

for i in range(1, 101):

if task3(i) == True:

print(i, end = ' ')

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

**Ans:**

def task5(num):

temp = num

total = 0

while (temp > 0):

total = total + (temp%10)

temp = temp//10

if num%total==0:

print("Harshad Number")

else:

print("Not Harshad Number")

task5(156)

task5(113)

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

**Ans:**

i = 0

while True:

pronicNum = i\*(i+1)

i = i + 1

if pronicNum > 100:

break

print(pronicNum, end = ' ')