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

A: def calculateLength(n):

length = 0;

while(n != 0):

length = length + 1;

n = n//10;

return length;

num = 175;

rem = sum = 0;

len = calculateLength(num);

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

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

A: #calculateLength() will count the digits present in a number

def calculateLength(n):

  length = 0;

    while(n != 0):

     length = length + 1;

        n = n//10;

   return length;

#sumOfDigits() will calculates the sum of digits powered with their respective position

def sumOfDigits(num):

rem = sum = 0;

    len = calculateLength(num);

    while(num > 0):

        rem = num%10;

        sum = sum + (rem\*\*len);

      num = num//10;

        len = len - 1;

    return sum;

result = 0;

#Displays all disarium numbers between 1 and 100

print("Disarium numbers between 1 and 100 are");

for i in range(1, 101):

    result = sumOfDigits(i);

    if(result == i):

       print(i),

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

A: 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;

num = 82;

result = num;

1. Write a Python program to print all happy numbers between 1 and 100?
2. A: #isHappyNumber() will determine whether a number is happy or not
3. **def** isHappyNumber(num):
4. rem = sum = 0;
6. #Calculates the sum of squares of digits
7. **while**(num > 0):
8. rem = num%10;
9. sum = sum + (rem\*rem);
10. num = num//10;
11. **return** sum;
13. #Displays all happy numbers between 1 and 100
14. **print**("List of happy numbers between 1 and 100: ");
15. **for** i **in** range(1, 101):
16. result = i;
18. #Happy number always ends with 1 and
19. #unhappy number ends in a cycle of repeating numbers which contains 4
20. **while**(result != 1 **and** result != 4):
21. result = isHappyNumber(result);
23. **if**(result == 1):
24. **print**(i),
25. **print**(" "),
26. Write a Python program to determine whether the given number is a Harshad Number?

A: # harshad numper print

num=int(input(" enter your input:"))

temp=num

rem=sum=0

while(temp > 0):

rem = temp%10;

sum = sum+rem

temp = temp//10;

print("sum is :", sum)

if num%sum==0:

print('{} is a harshad number'.format(num))

else:

print('not a harshad number')

6. Write a Python program to print all pronic numbers between 1 and 100?  
A: def digitsSum(num):

rem = sum = 0;

#Calculates the sum of squares of digits

while(num > 0):

rem = num%10;

sum = sum+rem

num = num//10;

return sum;

minHrd = int(input("Enter the Minimum Harshad Number = "))

maxHrd = int(input("Enter the Maximum Harshad Number = "))

print("\nThe List of Harshad Numbers from {0} and {1}".format(minHrd, maxHrd))

for i in range(minHrd, maxHrd + 1):

Sum = digitsSum(i)

if i % Sum == 0:

print(i, end = ' ')