1. Write a Python to implement Perfect Sum Problem

Given an array arr[] of integers and an integer K, the task is to print all subsets of the given array with the sum equal to the given target K.

Input: arr[] = {5, 10, 12, 13, 15, 18}, K = 30

Output: {12, 18}, {5, 12, 13}, {5, 10, 15}

Explanation:  
Subsets with sum 30 are:  
12 + 18 = 30  
5 + 12 + 13 = 30  
5 + 10 + 15 = 30

def sumSubsets(sets, n, target) :

x = [0]\*len(sets);

j = len(sets) - 1;

while (n > 0) :

x[j] = n % 2;

n = n // 2;

j -= 1;

sum = 0;

for i in range(len(sets)) :

if (x[i] == 1) :

sum += sets[i];

if (sum == target) :

print("{",end="");

for i in range(len(sets)) :

if (x[i] == 1) :

print(sets[i],end= ", ");

print("}, ",end="");

def findSubsets(arr, K) :

x = pow(2, len(arr));

for i in range(1, x) :

sumSubsets(arr, i, K);

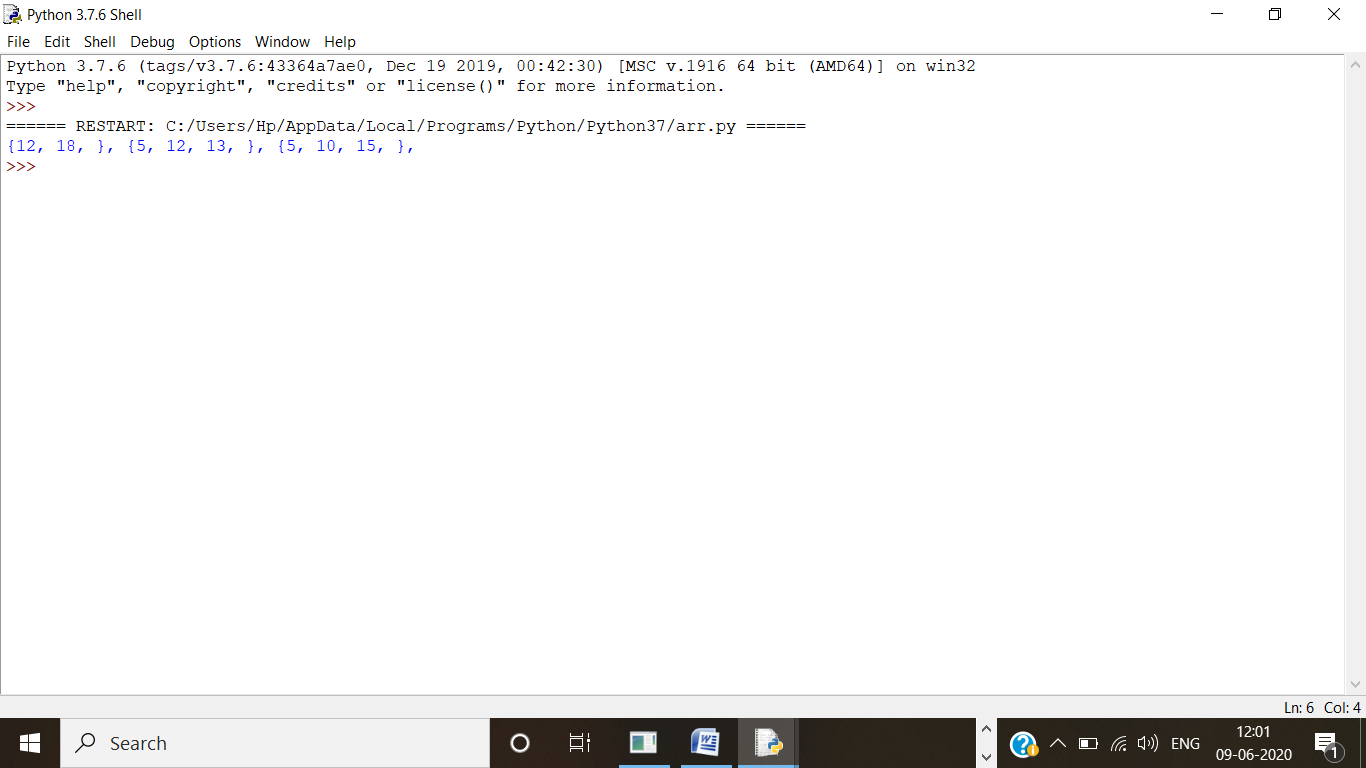
if \_\_name\_\_ == "\_\_main\_\_" :

arr = [ 5, 10, 12, 13, 15, 18 ];

K = 30;

findSubsets(arr, K);

**output:**



2. Python Program to count even and odd numbers

Write a Python program to count the number of even and odd numbers from a series of numbers.  
Numbers are = (1, 2, 3, 4, 5, 6, 7, 8, 9)  
Output:  
Number of even numbers : 5  
Number of odd numbers : 4

list1 = [1, 2, 3, 4, 5, 6, 7, 8, 9]

even\_count, odd\_count = 0, 0

for num in list1:

if num % 2 == 0:

even\_count += 1

else:

odd\_count += 1

print("Even numbers in the list: ", even\_count)

print("Odd numbers in the list: ", odd\_count)

**output:**

