1.Python Program for Number of solutions to Modular Equations

**Code:**

import math

def calculateDivisors (A, B):

N = A - B

noOfDivisors = 0

a = math.sqrt(N)

for i in range(1, int(a + 1)):

if ((N % i == 0)):

if (i > B):

noOfDivisors +=1

if ((N / i) != i and (N / i) > B):

noOfDivisors += 1;

return noOfDivisors

def numberOfPossibleWaysUtil (A, B):

if (A == B):

return -1

if (A < B):

return 0

noOfDivisors = 0

noOfDivisors = calculateDivisors;

return noOfDivisors

def numberOfPossibleWays(A, B):

noOfSolutions = numberOfPossibleWaysUtil(A, B)

if (noOfSolutions == -1):

print ("For A = " , A , " and B = " , B , ", X can take Infinitely many values" , " greater than " , A)

else:

print ("For A = " , A , " and B = " , B , ", X can take " , noOfSolutions , " values")

# main

A = 26

B = 2

numberOfPossibleWays(A, B)

A = 21

B = 5

numberOfPossibleWays(A, B)

**Output:**

