SI@UCF Introduction to Python
Homework Assignment: x+y+z = 100

Part A

Write a program that prints out all the positive integer solutions to the equation

$x+y+z = 100$ with $0 < x < y < z$.

Your program should also print out the total number of these solutions. Your output should begin something like:

```
x = 1, y = 2, z = 97
x = 1, y = 3, z = 96
x = 1, y = 4, z = 95
```

Your last line should print a statement of the form:

```
There were n solutions to the equation.
```

where n, represents the total number of solutions.

Part B

Edit your program from part A, so that instead of finding the number of positive integer solutions to

$x + y + z = 100,$

you find the number of positive integer solutions to

$x + y + z = n,$

where n is an integer entered by the user. Have your program run the same as before, printing out all the solutions, then printing out the number of solutions.

Part C

Edit your solution from part B to use two more pieces of input from the user:

a) The minimal value of x
b) The maximal value of z.

Thus, if the user enters 3 for the minimal value of x, 80 for the maximal value of z, and 100 as the value of n, your program should start printing out the following lines:

```
x = 3, y = 17, z = 80
x = 3, y = 18, z = 79
x = 3, y = 19, z = 78
```

```
What is the minimal value of x?
10
What is the maximal value of z?
20
What is the value of n?
35
x = 10, y = 11, z = 14
x = 10, y = 12, z = 13
There were 2 solutions to the equation.
```