

COP 3223 Recitation: Assignment Statement, Loops 2 (Nested)

Problem A: Wall Painting

Surprisingly, you and your roommate are getting along better now. In fact, the two of you have embarked on a project to paint your room in a manner similar to the stripes on the US flag. For example, if you wanted 5 rows with the first row with 8 stars, your design would look like the following:

```
* * * * *
 * * * * *
* * * * *
 * * * * *
* * * * *
```

Write a program to help you quickly view what different star designs might look like. Your program should ask the user to enter the number of rows and the number of stars in the first row. The even numbered rows should have one fewer star than the odd numbered rows.

Sample Run (User input in bold and italics)

How many rows for your star design?

5

How many stars on the first row?

8

```
* * * * *
 * * * * *
* * * * *
 * * * * *
* * * * *
```

Sample Run (User input in bold and italics)

How many rows for your star design?

2

How many stars on the first row?

17

```
* * * * *
 * * * * *
```

Problem B: Ways to Buy Pizza

You, your roommate and another friend of yours want to buy some pizza. The problem is that each of you likes a different type of pizza. You've agreed on getting some slices of each of the three types of pizza the three of you like and have further determined that your friend will get the least number of slices of his type and you will get the most number of slices of your type. (All three of you will receive a different number of slices.) Write a program that prints out all the possible slice distributions given the total number of slices you all are buying. For each distribution, print out a line with the following format:

Friend = X slices, Roommate = Y slices, and You = Z slices

where X, Y and Z are the corresponding number of slices.

Sample Run (User input in bold and italics)

How many slices of pizza are you getting all together?

10

Friend = 1 slices, Roommate = 2 slices, and You = 7 slices
Friend = 1 slices, Roommate = 3 slices, and You = 6 slices
Friend = 1 slices, Roommate = 4 slices, and You = 5 slices
Friend = 2 slices, Roommate = 3 slices, and You = 5 slices

Sample Run (User input in bold and italics)

How many slices of pizza are you getting all together?

12

Friend = 1 slices, Roommate = 2 slices, and You = 9 slices
Friend = 1 slices, Roommate = 3 slices, and You = 8 slices
Friend = 1 slices, Roommate = 4 slices, and You = 7 slices
Friend = 1 slices, Roommate = 5 slices, and You = 6 slices
Friend = 2 slices, Roommate = 3 slices, and You = 7 slices
Friend = 2 slices, Roommate = 4 slices, and You = 6 slices
Friend = 3 slices, Roommate = 4 slices, and You = 5 slices