CSE101: Introduction to Programming
Lab 10

Submission:
Mention your name and roll number
Zip and submit the two .py files(lab10.py and ShowTile.py) as asked.

Problem 1:

Create a module, lab10.py. In the created module, implement a function, recursive_sum(n), to recursively find the sum of digits of a given number, until you obtain a single digit sum. You may define additional functions, if required.
Precondition: n is a non-negative integer.
Return: Sum obtained on recursive summing

Sample:
recursive_sum(1437) returns 6. Explanation: 1+4+3+7=15 → 1+5=6
recursive_sum(1009) returns 1. Explanation: 1+0+0+9=10 → 1+0=1

Problem 2:

You have been provided with a module ShowTile.py. Execute the script provided in the module to obtain an interesting figure. Go through the Tiles procedure implemented in this file to understand the role of recursion here. Using the same idea as Tiling the Triangle, as discussed in class, make use of recursive approach to implement the Squares procedure in that module. The Squares procedure should draw the figure given below: