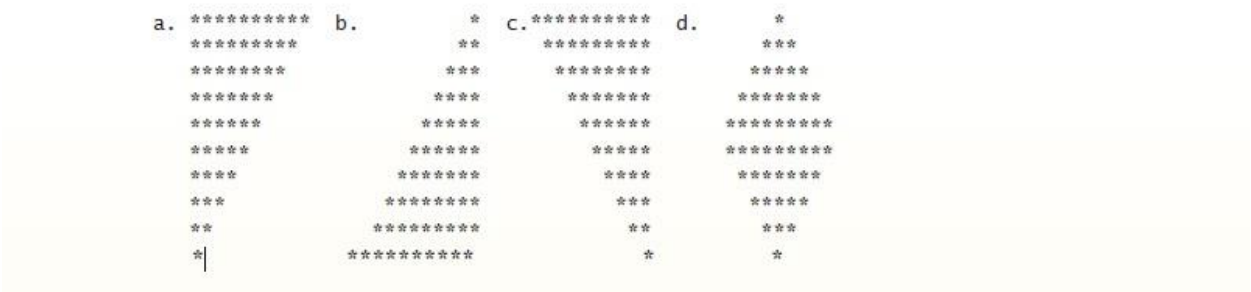
Java S16 Class 7 HW

Write a Java Program to solve each one of the problem. Please name your project as **mentioned in each question.** Submit each file to @homeworkbot individually.

1) Create a program to print the following patterns. Create a separate program to produce each pattern. Called your program as Pattern.Java. Keep all the pattern in the same file
*Hint:* Parts b, c, and d require several loops, some of which print a specific number of spaces.




2) Design and implement an application that prints the first few verses of the traveling song "One Hundred Bottles of Beer." Use a loop such that each iteration prints one verse. Read the number of verses to print from the user. Validate the input. Name your file Beer.java The following are the first two verses of the song:
100 bottles of beer on the wall
100 bottles of beer
If one of those bottles should happen to fall
99 bottles of beer on the wall

99 bottles of beer on the wall
99 bottles of beer
If one of those bottles should happen to fall
98 bottles of beer on the wall

3) Write the shortest Java program you can that reads in an integer N from the command line and print `true` if $(1 + 2 + ... + N)^2$ is equal to $(1^3 + 2^3 + ... + N^3)$. Name your file Short.java

*Answer*: always print `true`.