

Determine its Parts and which Scale?

Size = 4

```

    _____ | {--} | _____
      _____ | ##### {--} ##### | _____
        _____ | ##### {--} ##### | _____
          _____ | ##### {--} ##### | _____
            _____ | ##### {--} ##### | _____

```

So what characters or groups is each line made up of?

```

<spaces>  ___ |  #'s  {--}  #'s  |___  <spaces>

```

Which one's are the same from line to line?

```

    _____ |      {--}      | _____

```

These will just be printed.

Which one's change from line to line?

```

<spaces>      #'s      #'s      <spaces>

```

We will need a **for loop** for each of these.

Psuedocode for the Ziggurat

```
for (all the lines){
  for (some number of places based on the line){
    print(" ") // the leading spaces
  }
  print("__|") // the left side step
  for (some number of places based on the line){
    print("#") // the #'s
  }
  print("{--}") // the temple stair
  for (some number of places based on the line){
    print("#") // the #'s
  }
  print("|__") // the right side step
  println(); // advance to the next line
}
```

Count the characters to find the equations

Size	Lines	Leading Spaces (by line)	#'s (by line)
4	4	12, 8, 4, 0	0, 4, 8, 12
10	10	36, 32, 28, 24, 20, 16, 12, 8, 4, 0	0, 4, 8, 12, 16, 20, 24, 28, 32, 36

$$(SIZE - LINE) * 4$$

$$(LINE - 1) * 4$$

Size = 4

```

      ____ | {--} | ____
    ____ | ##### {--} ##### | ____
  ____ | ##### {--} ##### | ____
____ | ##### {--} ##### | ____
  
```

Size = 10

```

          ____ | {--} | ____
        ____ | ##### {--} ##### | ____
      ____ | ##### {--} ##### | ____
    ____ | ##### {--} ##### | ____
  ____ | ##### {--} ##### | ____
____ | ##### {--} ##### | ____
____ | ##### {--} ##### | ____
____ | ##### {--} ##### | ____
____ | ##### {--} ##### | ____
____ | ##### {--} ##### | ____
  
```


The Code in a class of its on...

```
public class ZigguratDemo {
    public static final int SIZE = 4;
    public static void main(String[] args) {
/* Simply calls the method to print a Ziggurat of size SIZE */
        ziggurat();
    }

    public static void ziggurat() {
        for(int line = 1; line <= SIZE; line++) {
            for(int i = 1; i <= (SIZE - line) * 4; i++) {
                System.out.print(" ");
            }
            System.out.print("___|");
            for(int i = 1; i <= (line - 1) * 4; i++) {
                System.out.print("#");
            }
            System.out.print("{--}");
            for(int i = 1; i <= (line - 1) * 4; i++) {
                System.out.print("#");
            }
            System.out.print("|___");
            System.out.println();
        }
    }
}
```