**Space Needle Analysis**

**Spire**

|  |  |
| --- | --- |
| Needle Size | Number of spaces before the spire |
| 2 | 6 |
| 3 | 9 |
| 4 | 12 |
| 7 | 21 |

Write an equation that captures the relationship between the needle size and the spaces before the spire.

Number of Spaces = Size \* 3

**Dome top**

|  |  |  |  |
| --- | --- | --- | --- |
| Needle size | Line number | spaces | Colons in first half |
| 2 | 1 | 3 | 0 |
| 2 | 0 | 3 |
| 3 | 1 | 6 | 0 |
| 2 | 3 | 3 |
| 3 | 0 | 6 |
| 4 | 1 | 9 | 0 |
| 2 | 6 | 3 |
| 3 | 3 | 6 |
| 4 | 0 | 9 |
| 7 | 1 | 18 | 0 |
| 2 | 15 | 3 |
| 3 | 12 | 6 |
| 4 | 9 | 9 |
| 5 | 6 | 12 |
| 6 | 3 | 15 |
| 7 | 0 | 18 |

Write an equation that calculates the number of spaces based on the SIZE and current line number

Number of spaces = ((SIZE\*3)-3)-(3\*line#-3)

Write an equation that calculates the number of colons (in, say, the first half of each line of the top) based on the SIZE and current line number

Number of colons = 3\*Line#-3

**Dome Floor**

|  |  |
| --- | --- |
| Needle Size | Number of “’s in the floor |
| 2 | 12 |
| 3 | 18 |
| 4 | 24 |
| 7 | 42 |

Write an equation that related the size to the number of “’s in the floor

Number of quotes = Size \* 6

**Dome Bottom**

|  |  |  |  |
| --- | --- | --- | --- |
| Needle size | Line number | spaces | V’s |
| 2 | 6 | 0 | 4 |
| 7 | 2 | 2 |
| 3 | 8 | 0 | 7 |
| 9 | 2 | 5 |
| 10 | 4 | 3 |
| 4 | 10 | 0 | 10 |
| 11 | 2 | 8 |
| 12 | 4 | 6 |
| 13 | 6 | 4 |
| 7 | 16 | 0 | 19 |
| 17 | 2 | 17 |
| 18 | 4 | 15 |
| 19 | 6 | 13 |
| 20 | 8 | 11 |
| 21 | 10 | 9 |
| 22 | 12 | 7 |

Write an equation that calculates the number of spaces based on the SIZE and current line number

Number of spaces = 2\*Line#-2

Write an equation that calculates the number of \/’s based on the SIZE and current line number

Number of V’s = ((SIZE\*3)-2)-(2line#-2)

**Body**

|  |  |  |  |
| --- | --- | --- | --- |
| Needle size | Width | spaces | % |
| 2 | 4 | 7 | 0 |
| 3 | 6 | 9 | 1 |
| 4 | 8 | 11 | 2 |
| 7 | 10 | 17 | 5 |

Write an equation that calculates the number of spaces based on the SIZE

2 \* SIZE + 1 = spaces

Write an equation that calculates the number of %’s based on the SIZE

SIZE – 2 = #%

What are the methods that you will create to draw your Space Needle? What order will you call these from your main method?

Methods:

Spire – prints spire

domeMidSection – calls domeTop and domeFloor

domeBottom – prints bottom of dome

body – prints body of needle

domeFloor – prints dome floor

domeTop – prints top of dome

PrintChar – prints a character a given number of times using parameters

Order how I will call them in main:

spire

domeMidSection

domeBottom

spire

body

domeMidSection