Star Patterns Programs in Python

Pettern	Logic

*
***
*****
****
****
	rows = 5
	for i in range(1, rows + 1):
	  print(' ' * (rows – i) +
	  '*' * (2 * i –1))

****
****
*****
***
*
	rows = 5
	for i in range(rows, 0, – 1):
	  print(' ' * (rows – i) +
	  '*' * (2 * i –1))

*
***
*****
****
****
****
*****
***
*
	rows = 5
	#Upper half
	for i in range(1, rows + 1):
	  print(' ' * (rows – i) +
	   '*' * (2 * i –1))
	#Lower half
	for i in range(rows – 1, 0, –1):
	  print(' ' * (rows – i) +
	   '*' * (2 * i –1))

*   *
**   **
*** ***
**** ****
****
****
**** ****
*** ***
**   **
*   *
	rows = 5
	#Upper half
	for i in range(1, rows + 1):
	  print('*' * i + ' ' * (2 * (rows – i))
	   + '*' * i)
	#Lower half
	for i in range(rows, 0, –1):
	  print('*' * i + ' ' * (2 * (rows – i))
	   + '*' * i)

Pattern	Code
| ```
*
**
***
****
*****
``` | ```
rows = 5
for i in range(1, rows +1):
    print('*' * i)
``` |
| ```
*****
*   *
*   *
*   *
*****
``` | ```
rows = 5
for i in range(rows):
    if i == 0 or i == rows -1:
        print('*' * rows)
    else:
        print('*' + ' ' *
            (rows -2) + '*')
``` |
| ```
*****
****
***
**
*
``` | ```
rows = 5
for i in range(rows, 0, -1):
    print('*' * i)
``` |
| ```
    *
   * *
  *   *
 *     *
*       *
 *     *
  *   *
   * *
    *
``` | ```
rows = 5
#upper part
for i in range(1, rows + 1):
    print(' ' * (rows - i) +
        '*' + ' ' * (2 * i -3) +
        ('*' if i > 1 else ''))

#Lower part
for i in range(rows - 1, 0, -1):
    print(' ' * (rows - i) + '*' + ' '
        * (2 * i -3) + ('*' if i > 1 else ''))
``` |
| ```
    *
   * *
  *   *
 *     *
*********
``` | ```
rows = 5
for i in range(1, rows + 1):
    if i == rows:
        print('*' * (2 * i -1))
    else:
``` |

| | ```
print(' ' * (rows - i ) +
      '*' + ' ' * (2 * i -3) +
      ('*' if i > 1 else ''))
``` |
| <pre>   *
   **
  ***
 ****
*****</pre> | ```
rows = 5
for i in range(1, rows + 1):
    print(' ' * (rows -i )
          + '*' * i)
``` |
| <pre>*   *
 *   *
   *
 *   *
*       *</pre> | ```
rows = 5
for i in range(1, rows + 1):
    for j in range(1, rows + 1):
        if i == j or i + j == rows + 1:
            print('*', end='')
        else:
            print(' ', end='')
    print()
``` |
| <pre>   *
          ***
         *****
        ****
       ****
****
 ****
  ****
   ****
    ****
     ******   ******
      *****   *****
       ****   ****
        ***   ***
         **   **
          *   *</pre> | ```
import math

def main():
    q = math.tan(math.pi * 0.4)
    w = math.tan(math.pi * 0.2)

    n = float(input("Enter the size\n"))

    for j in range(math.ceil(n * q), -1, -1):
        for i in range(-math.ceil(0.55 * n * q / w -
n),
                math.ceil(0.55 * n * q / w - n)):
            if ((j <= 0.55 * n * q and j >= (i + n) * w
and j >= (n - i) * w) or
                (j >= (i + n) * w and j <= (i + n) * q and
j <= (n - i) * q) or
                (j <= (n - i) * q and j >= (n - i) * w and j
``` |

```python
            <= (i + n) * q)):
                print('*', end="")
            else:
                print(" ", end="")
        print()

if __name__ == "__main__":
    main()
```