

# **150+ Python Pattern Programs**

## **By Hernando Abella**

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# Introduction

Develop your creativity by creating beautiful asterisk patterns with if statements and loops using the Python language. this awesome language will allow you to feel more comfortable writing code because you will master the more essential topics of programming by practicing these techniques.

If you are studying computer science at university, this book is perfect for you. They will require you to create these types of patterns that will be very useful to learn all types of advanced techniques and quickly master this wonderful language.

# Pattern 1

```
# *****  
# *****  
# *****  
# *****  
# *****
```

```
for i in range(1, 6):  
    for j in range(1, 6):  
        print("*", end="") # put any character  
    print()
```

## Pattern 2

```
# *  
# **  
# ***  
# ****  
# *****
```

```
for i in range(1, 6):  
    for j in range(1, i + 1):  
        print("*", end="")  
    print()
```

## Pattern 3

```
# *****  
# ****  
# ***  
# **  
# *
```

```
for i in range(1, 6):  
    for j in range(5, i - 1, -1):  
        print("*", end="")  
    print()
```

## Pattern 4

```
#      *
#     **
#    ***
#   ****
#  *****
```

```
n = 5
```

```
for i in range(1, n + 1):
    for j in range(n - 1, i - 1, -1):
        print(" ", end="")
    for k in range(1, i + 1):
        print("*", end="")
    print()
```

## Pattern 5

```
# *****  
#  *****  
#   *****  
#    *****  
#     *****
```

```
n = 5
```

```
for i in range(n, 0, -1):  
    for j in range(n - 1, i - 1, -1):  
        print(" ", end="")  
    for k in range(1, i + 1):  
        print("*", end="")  
    print()
```

## Pattern 6

```
#      *
#     * *
#    * * *
#   * * * *
```

```
p_height = 5
```

```
for i in range(1, p_height):
    for k in range(p_height - 1, i - 1, -1):
        print(" ", end="")
    for j in range(1, i + 1):
        print("* ", end="")
    print()
```



## Pattern 7

```
# * * * * *
#  * * * *
#   * * *
#    * *
#     *
```

```
p_height = 5
```

```
for i in range(p_height, 0, -1):
    for k in range(p_height - 1, i - 1, -1):
        print(" ", end="")
    for j in range(i, 0, -1):
        print("* ", end="")
    print()
```

## Pattern 8

```
#      *
#     ***
#    *****
#   *****
#  *****
# *****
```

```
p_height = 5
min_stars = 1

for i in range(p_height):
    for j in range(p_height - 1, i, -1):
        print(" ", end="")
    for k in range(min_stars):
        print("*", end="")
    min_stars += 2
    print()
```

## Pattern 9

```
# *****  
#  *****  
#   *****  
#    *****  
#     *****  
#      *****
```

```
p_height = 5  
max_stars = p_height * 2 - 1  
p_space = p_height - 1  
  
for i in range(p_height, 0, -1):  
    for j in range(p_space, i - 1, -1):  
        print(" ", end="")  
    for k in range(max_stars):  
        print("*", end="")  
    max_stars -= 2  
    print()
```

## Pattern 10

```
# *  
# **  
# ***  
# ****  
# ***  
# **  
# *
```

```
size = 3
```

```
for i in range(size, -size-1, -1):  
    for j in range(size, abs(i)-1, -1):  
        print("*", end="")  
    print()
```

## Pattern 11

```
#      *
#     **
#    ***
#   ****
#  ***
#   **
#    *
```

```
size = 3
```

```
for i in range(size, -size-1, -1):
    for j in range(1, abs(i)+1):
        print(" ", end="")
    for k in range(size, abs(i)-1, -1):
        print("*", end="")
    print()
```

## Pattern 12

```
# 1****  
# 22***  
# 333**  
# 4444*  
# 55555
```

```
n = 5
```

```
for i in range(1, n + 1):  
    for j in range(1, n + 1):  
        if j > i:  
            print("*", end="")  
        else:  
            print(i, end="")  
    print()
```

## Pattern 13

```
# 1****  
# 12***  
# 123**  
# 1234*  
# 12345
```

```
n = 5
```

```
for i in range(1, n + 1):  
    for j in range(1, n + 1):  
        if j > i:  
            print("*", end="")  
        else:  
            print(j, end="")  
    print()
```

## Pattern 14

```
# 55555
# 4444*
# 333**
# 22***
# 1****
```

```
n = 5
```

```
for i in range(n, 0, -1):
    for j in range(1, n + 1):
        if j > i:
            print("*", end="")
        else:
            print(i, end="")
    print()
```



## Pattern 15

```
# 12345  
# 1234*  
# 123**  
# 12***  
# 1****
```

```
n = 5
```

```
for i in range(n, 0, -1):  
    for j in range(1, n + 1):  
        if j > i:  
            print("*", end="")  
        else:  
            print(j, end="")  
    print()
```

## Pattern 16

```
# ****1  
# ***22  
# **333  
# *4444  
# 55555
```

```
n = 5
```

```
for i in range(1, n + 1):  
    for j in range(n, 0, -1):  
        if j > i:  
            print("*", end="")  
        else:  
            print(i, end="")  
    print()
```

## Pattern 17

```
# ****1  
# ***21  
# **321  
# *4321  
# 54321
```

```
n = 5
```

```
for i in range(1, n + 1):  
    for j in range(n, 0, -1):  
        if j > i:  
            print("*", end="")  
        else:  
            print(j, end="")  
    print()
```

## Pattern 18

```
# 55555
# *4444
# **333
# ***22
# ****1
```

```
n = 5
```

```
for i in range(n, 0, -1):
    for j in range(n, 0, -1):
        if j > i:
            print("*", end="")
        else:
            print(i, end="")
    print()
```

## Pattern 19

```
# 54321
# *4321
# **321
# ***21
# ****1
```

```
n = 5
```

```
for i in range(n, 0, -1):
    for j in range(n, 0, -1):
        if j > i:
            print("*", end="")
        else:
            print(j, end="")
    print()
```

## Pattern 20

```
# A****  
# BB***  
# CCC**  
# DDDD*  
# EEEEE
```

```
n = 5
```

```
for i in range(n):  
    for j in range(n):  
        if j > i:  
            print("*", end="")  
        else:  
            print(chr(i + 65), end="")  
    print()
```

## Pattern 21

```
# A****  
# AB***  
# ABC**  
# ABCD*  
# ABCDE
```

```
n = 5
```

```
for i in range(n):  
    for j in range(n):  
        if j > i:  
            print("*", end="")  
        else:  
            print(chr(j + 65), end="")  
    print()
```

## Pattern 22

```
# EEEEE  
# DDDD*  
# CCC**  
# BB***  
# A****
```

```
n = 4
```

```
for i in range(n, -1, -1):  
    for j in range(n + 1):  
        if j > i:  
            print("*", end="")  
        else:  
            print(chr(i + 65), end="")  
    print()
```



## Pattern 23

```
# ABCDE
# ABCD*
# ABC**
# AB***
# A****
```

```
n = 4
```

```
for i in range(n, -1, -1):
    for j in range(n + 1):
        if j > i:
            print("*", end="")
        else:
            print(chr(j + 65), end="")
    print()
```

## Pattern 24

```
# ****A  
# ***BB  
# **CCC  
# *DDDD  
# EEEEE
```

```
n = 4
```

```
for i in range(n + 1):  
    for j in range(n, -1, -1):  
        if j > i:  
            print("*", end="")  
        else:  
            print(chr(i + 65), end="")  
    print()
```

## Pattern 25

```
# ****A  
# ***BA  
# **CBA  
# *DCBA  
# EDCBA
```

```
n = 4
```

```
for i in range(n + 1):  
    for j in range(n, -1, -1):  
        if j > i:  
            print("*", end="")  
        else:  
            print(chr(j + 65), end="")  
    print()
```

## Pattern 26

```
# EEEEE
# *DDDD
# **CCC
# ***BB
# ****A
```

```
n = 4
```

```
for i in range(n, -1, -1):
    for j in range(n, -1, -1):
        if j > i:
            print("*", end="")
        else:
            print(chr(i + 65), end="")
    print()
```

## Pattern 27

```
# EDCBA
# *DCBA
# **CBA
# ***BA
# ****A
```

```
n = 4
```

```
for i in range(n, -1, -1):
    for j in range(n, -1, -1):
        if j > i:
            print("*", end="")
        else:
            print(chr(j + 65), end="")
    print()
```

## Pattern 28

```
# 1 2 3 4 *  
# 1 2 3 * 5  
# 1 2 * 4 5  
# 1 * 3 4 5  
# * 2 3 4 5
```

```
n = 5  
  
for i in range(1, n + 1):  
    for j in range(1, n + 1):  
        if j == n - i + 1:  
            print("* ", end="")  
        else:  
            print(j, end=" ")  
    print()
```

## Pattern 29

```
# * 1 * 2 *  
# 3 * 4 * 5  
# * 6 * 7 *  
# 8 * 9 *10  
# *11 *12 *
```

```
n = 5  
x = 1  
  
for i in range(1, n + 1):  
    for j in range(1, n + 1):  
        if (i + j) % 2 == 1:  
            print(f"{x:2}", end="")  
            x += 1  
        else:  
            print(" *", end="")  
    print()
```

## Pattern 30

```
# * A* B*
# C* D* E
# * F* G*
# H* I* J
# * K* L*
```

```
n = 5
x = ord('A')

for i in range(1, n + 1):
    for j in range(1, n + 1):
        if (i + j) % 2 == 1:
            print(chr(x), end="")
            x += 1
        else:
            print("* ", end="")
    print()
```



## Pattern 31

```
# * # # # # # #  
# # # # # # * *  
# * * * # # # #  
# # # # * * * *  
# * * * # # # #  
# # # # # # * *  
# * # # # # # #
```

```
n = 7
```

```
x = 1
```

```
for i in range(1, n + 1):  
    for j in range(1, n + 1):  
        if i % 2 == 1 and j <= x:  
            print("* ", end="")  
        elif i % 2 == 0 and j >= n - x + 1:  
            print("* ", end="")  
        else:  
            print("# ", end="")  
    print()  
    if i <= n // 2:  
        x += 1  
    else:  
        x -= 1
```

## Pattern 32

```
# * 0 0 0 * 0 0 0 *
# 0 * 0 0 * 0 0 * 0
# 0 0 * 0 * 0 * 0 0
# 0 0 0 * * * 0 0 0
# 0 0 0 0 * 0 0 0 0
```

```
n = 5
```

```
for i in range(1, n + 1):
    for j in range(1, 2 * n):
        if j == i or j == 2 * n - i or j == n:
            print("* ", end="")
        else:
            print("0 ", end="")
    print()
```

## Pattern 33

```
# 1
# 1* 2
# 1* 2* 3
# 1* 2* 3* 4
# 1* 2* 3* 4* 5
```

```
n = 5
```

```
for i in range(1, n + 1):
    for j in range(1, i + 1):
        print(j, end="")
        if j != i:
            print("* ", end="")
    print()
```

## Pattern 34

```
# 1
# 3* 2
# 4* 5* 6
# 10* 9* 8* 7
# 11* 12* 13* 14* 15
```

```
n = 5
```

```
px = 1
```

```
py = 1
```

```
for i in range(1, n + 1):
    t = py
    for j in range(1, i + 1):
        if i % 2 == 1:
            print(f"{px:2}", end="")
        else:
            print(f"{t:2}", end="")
            t -= 1
        px += 1
        if j != i:
            print("* ", end="")
    py = py + i + 1
    print()
```

## Pattern 35

```
# #  
# **  
# ###  
# ****  
# #####
```

```
n = 5
```

```
for i in range(1, n + 1):  
    for j in range(1, i + 1):  
        if i % 2 == 0:  
            print("*", end="")  
        else:  
            print("#", end="")  
    print()
```

## Pattern 36

```
# 1
# **
# 333
# ****
# 55555
```

```
n = 5
```

```
for i in range(1, n + 1):
    for j in range(1, i + 1):
        if i % 2 == 0:
            print("*", end="")
        else:
            print(i, end="")
    print()
```

## Pattern 37

```
# 1
# **
# 123
# ****
# 12345
```

```
n = 5
```

```
for i in range(1, n + 1):
    for j in range(1, i + 1):
        if i % 2 == 0:
            print("*", end="")
        else:
            print(j, end="")
    print()
```

## Pattern 38

```
# 1
# 1*
# 1*3
# 1*3*
# 1*3*5
```

```
n = 5
```

```
for i in range(1, n + 1):
    for j in range(1, i + 1):
        if j % 2 == 0:
            print("*", end="")
        else:
            print(j, end="")
    print()
```



## Pattern 39

```
# 1
# 2*
# 3*3
# 4*4*
# 5*5*5
```

```
n = 5
```

```
for i in range(1, n + 1):
    for j in range(1, i + 1):
        if j % 2 == 0:
            print("*", end="")
        else:
            print(i, end="")
    print()
```

## Pattern 40

```
# #####  
# ****  
# ###  
# **  
# #
```

```
n = 5
```

```
for i in range(n, 0, -1):  
    for j in range(1, i + 1):  
        if i % 2 == 0:  
            print("*", end="")  
        else:  
            print("#", end="")  
    print()
```

## Pattern 41

```
# #*##*#  
# #*##*  
# #*##  
# #*#  
# #
```

```
n = 5
```

```
for i in range(n, 0, -1):  
    for j in range(1, i + 1):  
        if j % 2 == 0:  
            print("*", end="")  
        else:  
            print("#", end="")  
    print()
```

## Pattern 42

```
# 55555
# ****
# 333
# **
# 1
```

```
n = 5
```

```
for i in range(n, 0, -1):
    for j in range(1, i + 1):
        if i % 2 == 0:
            print("*", end="")
        else:
            print(i, end="")
    print()
```

## Pattern 43

```
# 12345
# ****
# 123
# **
# 1
```

```
n = 5
```

```
for i in range(n, 0, -1):
    for j in range(1, i + 1):
        if i % 2 == 0:
            print("*", end="")
        else:
            print(j, end="")
    print()
```

## Pattern 44

```
# 1*3*5  
# 1*3*  
# 1*3  
# 1*  
# 1
```

```
n = 5
```

```
for i in range(n, 0, -1):  
    for j in range(1, i + 1):  
        if j % 2 == 0:  
            print("*", end="")  
        else:  
            print(j, end="")  
    print()
```

## Pattern 45

```
# 1*3*5
# 1*3*
# 1*3
# 1*
# 1
```

```
n = 5
```

```
for i in range(n, 0, -1):
    for j in range(1, i + 1):
        if j % 2 == 0:
            print("*", end="")
        else:
            print(i, end="")
    print()
```

## Pattern 46

```
#      #  
#      **  
#      ###  
#      ****  
#      #####
```

```
n = 5
```

```
for i in range(n, 0, -1):  
    for j in range(1, n + 1):  
        if i <= j:  
            if i % 2 == 0:  
                print("*", end="")  
            else:  
                print("#", end="")  
        else:  
            print(" ", end="")  
    print()
```



## Pattern 47

```

#           #
#           *#
#           #*#
#           *#*#
# #*#*#*#

```

$$n = 5$$

```
for i in range(1, n + 1):
    for j in range(n, 0, -1):
        if i >= j:
            if j % 2 == 0:
                print("*", end="")
            else:
                print("#", end="")
        else:
            print(" ", end="")
    print()
```

## Pattern 48

```
#      1
#     **
#    333
#   ****
#  55555
```

```
n = 5
```

```
for i in range(1, n + 1):
    for j in range(n, 0, -1):
        if i >= j:
            if i % 2 == 0:
                print("*", end="")
            else:
                print(i, end="")
        else:
            print(" ", end="")
    print()
```

## Pattern 49

```
#      1
#     **
#    321
#   ****
#  54321
```

```
n = 5
```

```
for i in range(1, n + 1):
    for j in range(n, 0, -1):
        if i >= j:
            if i % 2 == 0:
                print("*", end="")
            else:
                print(j, end="")
        else:
            print(" ", end="")
    print()
```

## Pattern 50

```
#      5
#      **
#     345
#    ****
# 12345
```

```
n = 5
```

```
for i in range(n, 0, -1):
    for j in range(1, n + 1):
        if i <= j:
            if i % 2 == 0:
                print("*", end="")
            else:
                print(j, end="")
        else:
            print(" ", end="")
    print()
```

## Pattern 51

```
#      1
#     *1
#    3*1
#   *3*1
# 5*3*1
```

```
n = 5
```

```
for i in range(1, n + 1):
    for j in range(n, 0, -1):
        if i >= j:
            if j % 2 == 0:
                print("*", end="")
            else:
                print(j, end="")
        else:
            print(" ", end="")
    print()
```

## Pattern 52

```
#      1
#      *2
#     3*3
#    *4*4
# 5*5*5
```

```
n = 5
```

```
for i in range(1, n + 1):
    for j in range(n, 0, -1):
        if i >= j:
            if j % 2 == 0:
                print("*", end="")
            else:
                print(i, end="")
        else:
            print(" ", end="")
    print()
```

## Pattern 53

```
# #####  
#  ****  
#   ###  
#    **  
#     #
```

```
n = 5
```

```
for i in range(n, 0, -1):  
    for j in range(n, 0, -1):  
        if i >= j:  
            if i % 2 == 0:  
                print("*", end="")  
            else:  
                print("#", end="")  
        else:  
            print(" ", end="")  
    print()
```

## Pattern 54

```
# #*##  
#  *##  
#   ##  
#    *#  
#     #
```

```
n = 5
```

```
for i in range(n, 0, -1):  
    for j in range(n, 0, -1):  
        if i >= j:  
            if j % 2 == 0:  
                print("*", end="")  
            else:  
                print("#", end="")  
        else:  
            print(" ", end="")  
    print()
```



## Pattern 55

```
# 55555
#  ****
#   333
#    **
#     1
```

```
n = 5
```

```
for i in range(n, 0, -1):
    for j in range(n, 0, -1):
        if i >= j:
            if i % 2 == 0:
                print("*", end="")
            else:
                print(i, end="")
        else:
            print(" ", end="")
    print()
```

## Pattern 56

```
# 54321
#  ****
#   321
#    **
#     1
```

```
n = 5
```

```
for i in range(n, 0, -1):
    for j in range(n, 0, -1):
        if i >= j:
            if i % 2 == 0:
                print("*", end="")
            else:
                print(j, end="")
        else:
            print(" ", end="")
    print()
```

## Pattern 57

```
# 5*3*1
#  *3*1
#   3*1
#    *1
#     1
```

```
n = 5
```

```
for i in range(n, 0, -1):
    for j in range(n, 0, -1):
        if i >= j:
            if j % 2 == 0:
                print("*", end="")
            else:
                print(j, end="")
        else:
            print(" ", end="")
    print()
```

## Pattern 58

```
#      #  
#      * *  
#    # # #  
#  * * * *  
# # # # #
```

```
n = 5
```

```
for i in range(n, 0, -1):  
    for j in range(1, n + 1):  
        if i <= j:  
            if i % 2 == 0:  
                print("* ", end="")  
            else:  
                print("# ", end="")  
        else:  
            print(" ", end="")  
    print()
```

## Pattern 59

```
#      #  
#      *  #  
#    # *  #  
#  * # *  #
```

```
n = 5
```

```
for i in range(1, n + 1):  
    for j in range(n, 0, -1):  
        if i > j:  
            if j % 2 == 0:  
                print("* ", end="")  
            else:  
                print("# ", end="")  
        else:  
            print(" ", end="")  
    print()
```

## Pattern 60

```
#      1
#     * *
#    3 3 3
#   * * * *
# 5 5 5 5 5
```

```
n = 5
```

```
for i in range(1, n + 1):
    for j in range(n, 0, -1):
        if i >= j:
            if i % 2 == 0:
                print("* ", end="")
            else:
                print(f"{i} ", end="")
        else:
            print(" ", end="")
    print()
```

## Pattern 61

```
# # # # #  
# * * * *  
#   # # #  
#     * *  
#       #
```

```
n = 5
```

```
for i in range(n, 0, -1):  
    for j in range(n, 0, -1):  
        if i >= j:  
            if i % 2 == 0:  
                print("* ", end="")  
            else:  
                print("# ", end="")  
        else:  
            print(" ", end="")  
    print()
```

## Pattern 62

```
# # * # * #  
#  * # * #  
#   # * #  
#    * #  
#     #
```

```
n = 5
```

```
for i in range(n, 0, -1):  
    for j in range(n, 0, -1):  
        if i >= j:  
            if j % 2 == 0:  
                print("* ", end="")  
            else:  
                print("# ", end="")  
        else:  
            print(" ", end="")  
    print()
```



## Pattern 63

```
# 5 5 5 5 5
#  * * * *
#   3 3 3
#    * *
#     1
```

```
n = 5
```

```
for i in range(n, 0, -1):
    for j in range(n, 0, -1):
        if i >= j:
            if i % 2 == 0:
                print("* ", end="")
            else:
                print(f"{i} ", end="")
        else:
            print(" ", end="")
    print()
```

## Pattern 64

```
# 0
# 1*
# 2**
# 3***
# 4****
# 5*****
```

```
n = 5
```

```
for i in range(n + 1):
    for j in range(i + 1):
        if j != 0:
            print("*", end="")
        else:
            print(i, end="")
    print()
```

## Pattern 65

```
# 5*****
# 4*****
# 3***
# 2**
# 1*
# 0

n = 5

for i in range(n, -1, -1):
    for j in range(i + 1):
        if j != 0:
            print("*", end="")
        else:
            print(i, end="")
    print()
```

## Pattern 66

```
# 0
# *1
# **2
# ***3
# ****4
# *****5

n = 5

for i in range(n + 1):
    for j in range(i + 1):
        if i > j:
            print("*", end="")
        else:
            print(i, end="")
    print()
```

## Pattern 67

```
# *****5
# ****4
# ***3
# **2
# *1
# 0

n = 5

for i in range(n, -1, -1):
    for j in range(i + 1):
        if i > j:
            print("*", end="")
        else:
            print(i, end="")
    print()
```

## Pattern 68

```
# *  *  
#  * *  
#   *  
#  * *  
# *  *
```

```
n = 5
```

```
for i in range(1, n + 1):  
    for j in range(1, n + 1):  
        if i == j or i + j == n + 1:  
            print("*", end="")  
        else:  
            print(" ", end="")  
    print()
```

## Pattern 69

```
#  *  
#  *  
# *****  
#  *  
#  *
```

```
for i in range(1, 6):  
    for j in range(1, 6):  
        if j == 3 or i == 3:  
            print("*", end="")  
        else:  
            print(" ", end="")  
    print()
```

## Pattern 70

```
# *****  
# *      *  
# *      *  
# *      *  
# *****
```

```
n = 5
```

```
for i in range(1, n + 1):  
    for j in range(1, n + 1):  
        if j == 1 or j == n or i == 1 or i == n:  
            print("*", end="")  
        else:  
            print(" ", end="")  
    print()
```



## Pattern 71

```
# *****  
# *###*  
# *###*  
# *###*  
# *###*  
# *****
```

```
n = 5
```

```
for i in range(1, n + 1):  
    for j in range(1, n + 1):  
        if j == 1 or j == n or i == 1 or i == n:  
            print("*", end="")  
        else:  
            print("#", end="")  
    print()
```

## Pattern 72

```
# *****  
# **      **  
# * * * *  
# *  *  *  
# * * * *  
# **      **  
# *****
```

```
n = 7
```

```
for i in range(n):  
    for j in range(n):  
        if i == 0 or j == 0 or i == j or i == n - 1 or j ==  
n - 1 or i + j == n - 1:  
            print("*", end="")  
        else:  
            print(" ", end="")  
    print()
```

## Pattern 73

```
# *  
# * *  
# *   *  
# *     *  
# *       *  
# *         *  
# *           *  
# * * * * * * *
```

```
n = 7
```

```
for i in range(1, n + 1):  
    for j in range(1, n + 1):  
        if j == 1 or i == j or i == n:  
            print("* ", end="")  
        else:  
            print("  ", end="")  
    print()
```

## Pattern 74

```
# * * * * * * *
# *           *
# *           *
# *           *
# *       *
# *   *
# * *
# *
```

```
n = 7
for i in range(n, 0, -1):
    for j in range(n, 0, -1):
        if j == n - i + 1 or j == n or i == n:
            print("* ", end="")
        else:
            print("  ", end="")
    print()
```

## Pattern 75

```
#           *
#         * *
#       *   *
#     *     *
# * * * * *
```

```
n = 5
for i in range(1, n + 1):
    for j in range(1, n + 1):
        if j == n - i + 1 or j == n or i == n:
            print("* ", end="")
        else:
            print("  ", end="")
    print()
```

## Pattern 76

```
# * * * * *  
#   *       *  
#       *   *  
#           * *  
#               *
```

```
n = 5  
for i in range(n, 0, -1):  
    for j in range(1, n + 1):  
        if j == n - i + 1 or j == n or i == n:  
            print("* ", end="")  
        else:  
            print("  ", end="")  
    print()
```

## Pattern 77

```
#      *  
#     * *  
#    *   *  
#   *     *  
#  *       *
```

```
n = 5  
px = n  
py = n  
  
for i in range(1, n + 1):  
    for j in range(1, n * 2 + 1):  
        if j == px or j == py:  
            print("*", end="")  
        else:  
            print(" ", end="")  
    px -= 1  
    py += 1  
    print()
```

## Pattern 78

```
# *      *
#  *      *
#   *    *
#    *  *
#     *
```

```
n = 5
px = 1
py = n * 2 - 1

for i in range(1, n + 1):
    for j in range(1, n * 2 + 1):
        if j == px or j == py:
            print("*", end="")
        else:
            print(" ", end="")
    px += 1
    py -= 1
    print()
```



## Pattern 79

```
# *  
#  *  
#   *  
#    *  
#   *  
#  *  
# *
```

```
n = 7  
x = 1  
for i in range(1, n + 1):  
    for j in range(1, x + 1):  
        if j == x:  
            print("* ", end="")  
        else:  
            print(" ", end="")  
    print()  
    if i <= n / 2:  
        x += 1  
    else:  
        x -= 1
```

## Pattern 80

```
#      *
#     *
#    *
#   *
#  *
# *
#
```

```
n = 7
x = n // 2 + 1

for i in range(1, n + 1):
    for j in range(1, x + 1):
        if j == x:
            print("* ", end="")
        else:
            print(" ", end="")
    print()

    if i <= n // 2:
        x -= 1
    else:
        x += 1
```

## Pattern 81

```
#      *
#     * *
#    *   *
#   *     *
#  *       *
# *         *
# *         *
#  *       *
#   *     *
#    *   *
#     * *
```

```
n = 9
px = n // 2 + 1

for i in range(1, n + 1):
    for j in range(1, n + 1):
        if j == px or j == n - px + 1:
            print("*", end="")
        else:
            print(" ", end="")
    if i <= n // 2:
        px -= 1
    else:
        px += 1
    print()
```

## Pattern 82

```
#      *
#     /\
#    /\ 
#   /\ 
#  /\ 
# /\ 
# \ 
#  \ 
#   \ 
#    \ 
#     \ 
#      *
```

```
n = 10
```

```
px = n // 2
```

```
py = n // 2
```

```
for i in range(1, n + 1):
    for j in range(1, n + 1):
        if (i == 1 or i == n) and j == n // 2:
            print("*", end="")
        elif j == px:
            print("/", end="")
        elif j == py:
            print("\\", end="")
        else:
            print(" ", end="")

    if i == n // 2:
        px, py = py, px
    else:
        px -= 1
        py += 1
```

```
print()
```

## Pattern 83

```
#      *
#     - -
#    -   -
#   -     -
#  -       -
# -        -
# -        -
#  -       -
#   -     -
#    -   -
#     - -
#      *
```

```
n = 10
px = n // 2
py = n // 2

for i in range(1, n + 1):
    for j in range(1, n):
        if (i == 1 or i == n) and j == n // 2:
            print("*", end="")
        elif j == px or j == py:
            print("-", end="")
        else:
            print(" ", end="")
    if i == n // 2:
        t = px
        px = py
        py = t
    else:
        px -= 1
        py += 1
```

```
print()
```

## Pattern 84

```
#      *
#     * *
#    * * *
#   * * * *
#  * * * *
#   * * *
#    * *
#     *
```

```
size = 3
```

```
for i in range(size, -size-1, -1):
    for j in range(1, abs(i)+1):
        print(" ", end="")
    for k in range(size, abs(i)-1, -1):
        print("* ", end="")
    print()
```

## Pattern 85

```
# *  
# **  
# ***  
# *  
# **  
# ***  
# *  
# **  
# ***
```

```
n = 3  
for i in range(3):  
    for j in range(1, n+1):  
        print("*" * j)
```

## Pattern 86

```
# *  
# * *  
# 123  
# * *  
# *
```

```
#include <stdio.h>
```

```
n = 5
```

```
x = 1
```

```
for i in range(1, n+1):  
    for j in range(1, x+1):  
        if i != n//2 + 1:  
            print("* ", end="")  
        else:  
            print(j, end=" ")  
    if i <= n//2:  
        x += 1  
    else:  
        x -= 1  
    print()
```



## Pattern 87

```
# *  
# * *  
# ABC  
# * *  
# *
```

```
n = 5  
x = 1
```

```
for i in range(1, n + 1):  
    for j in range(1, x + 1):  
        if i != n // 2 + 1:  
            print("*", end=" ")  
        else:  
            print(chr(64 + j), end=" ")  
    if i <= n // 2:  
        x += 1  
    else:  
        x -= 1  
    print()
```

## Pattern 88

```
# 1
# 2* 2
# 3* 3* 3
# 4* 4* 4* 4
# 3* 3* 3
# 2* 2
# 1
```

```
n = 7
```

```
x = 1
```

```
for i in range(1, n + 1):
    for j in range(1, 2 * x):
        if i <= n // 2 + 1 and j % 2 == 1:
            print(i, end=" ")
        elif i > n // 2 + 1 and j % 2 == 1:
            print(n - i + 1, end=" ")
        else:
            print("*", end=" ")
    if i <= n // 2:
        x += 1
    else:
        x -= 1
    print()
```

## Pattern 89

```
# * * * * * * *
#   * * * * *
#       * * *
#           *
#       * * *
#   * * * * *
# * * * * * * *
```

```
n = 7
```

```
x = 1
```

```
for i in range(1, n + 1):
    for j in range(1, n + 1):
        if j >= x and j <= n - x + 1:
            print("* ", end="")
        else:
            print("  ", end="")
    if i <= n // 2:
        x += 1
    else:
        x -= 1
    print()
```

## Pattern 90

```
# *           *
# * *       * *
# * * *   * * *
# * * * * * * *
# * * *   * * *
# * *       * *
# *           *
```

```
n = 7
```

```
x = 1
```

```
for i in range(1, n + 1):
    for j in range(1, n + 1):
        if j <= x or j >= n - x + 1:
            print("* ", end="")
        else:
            print("  ", end="")
    if i <= n // 2:
        x += 1
    else:
        x -= 1
    print()
```

## Pattern 91

```
# * * * * *
# * * * *
# * * *
# * *
# *
# * *
# * * *
# * * * *
# * * * * *
```

```
size = 4
```

```
for i in range(size, -size - 1, -1):
    for j in range(0, abs(i) + 1):
        print("* ", end="")
    print()
```

## Pattern 92

```
# * * * *
#   * * *
#     * *
#       *
#     * *
#   * * *
# * * * *
```

```
n = 7
```

```
x = 1
```

```
for i in range(1, n + 1):
    for j in range(1, n // 2 + 2):
        if j >= x:
            print("* ", end="")
        else:
            print("  ", end="")
    if i <= n // 2:
        x += 1
    else:
        x -= 1
    print()
```

## Pattern 93

```
# *      *
# **     **
# ***    ***
# ****   ****
# *****
```

```
n = 5
```

```
for i in range(1, n + 1):
    for j in range(1, n * 2):
        if j <= i or j >= n * 2 - i:
            print("*", end="")
        else:
            print(" ", end="")
    print()
```

## Pattern 94

```
# *****  
# *****  
# ***      ***  
# **        **  
# *          *
```

```
n = 5  
px = n  
py = n  
  
for i in range(1, n + 1):  
    for j in range(1, n * 2):  
        if j > px and j < py:  
            print(" ", end="")  
        else:  
            print("*", end="")  
    px -= 1  
    py += 1  
    print()
```



## Pattern 95

```
#      *          *
#      ***        ***
#      *****    *****
#      *********  *********
#      *****************
```

```
min_stars = 1
```

```
p_height = 5
```

```
p_space = p_height - 1
```

```
for i in range(p_height):
    for j in range(p_space, i, -1):
        print(" ", end="")
    for k in range(min_stars):
        print("*", end="")
    for l in range(p_space * 2, p_space - 1, -1):
        print(" ", end="")
    for m in range(min_stars):
        print("*", end="")
```

```
min_stars += 2
```

```
print()
```

## Pattern 96

```
# 1 2 3 4 * 4 3 2 1
# 1 2 3 * * * 3 2 1
# 1 2 * * * * * 2 1
# 1 * * * * * * * 1
# * * * * * * * * *
```

```
n = 5
```

```
x = n
```

```
for i in range(1, n + 1):
    for j in range(1, 2 * n):
        if j >= x and j <= n + i - 1:
            print("* ", end="")
        elif j <= n:
            print(j, end=" ")
        else:
            print(2 * n - j, end=" ")
    x -= 1
    print()
```

## Pattern 97

```
#           *
#         # * #
#       * # * # *
#     # * # * # * #
# * # * # * # * # *
```

```
n = 5
```

```
x = n
```

```
for i in range(1, n + 1):
    for j in range(1, 2 * n):
        if j >= x and j < n + i and j % 2 == 1:
            print("* ", end="")
        elif j >= x and j < n + i and j % 2 == 0:
            print("# ", end="")
        else:
            print("  ", end="") # Adjust spacing for
better alignment
    x -= 1
    print()
```

## Pattern 98

```
#           *
#         * *
#       * * *
#     * * * *
#   *           *
# * *         * *
# * * *     * * *
# * * * * * * * *
# * * * * * * * *
```

```
p_height = 5
```

```
p_space = p_height - 1
```

```
x = 1
```

```
# Upper part of the pattern
```

```
for i in range(1, p_height):
    print(" " * p_height, end="")
    for k in range(p_space, i - 1, -1):
        print(" ", end="")
    for j in range(1, i + 1):
        print("* ", end="")
    print()
```

```
# Lower part of the pattern
```

```
for i in range(p_height):
    for j in range(p_space, i, -1):
        print(" ", end="")
    for k in range(i + 1):
        print("* ", end="")
    for n in range(p_height + p_height - 2, x - 1, -1):
        print(" ", end="")
```

```
for k in range(i + 1):  
    print("* ", end="")  
x += 2  
print()
```

## Pattern 99

```
#      *  
#     * *  
#    *   *  
#   *     *  
#  *       *  
# *****
```

```
n = 5  
px = n  
py = n  
  
for i in range(1, n + 1):  
    for j in range(1, n * 2):  
        if j == px or j == py or i == n:  
            print("*", end="")  
        else:  
            print(" ", end="")  
    px -= 1  
    py += 1  
    print()
```

## Pattern 100

```
# *  
# **  
# * *  
# *  *  
# * *  
# **  
# *
```

```
n = 7
```

```
x = 1
```

```
for i in range(1, n + 1):  
    for j in range(1, x + 1):  
        if j == 1 or j == x:  
            print("*", end="")  
        else:  
            print(" ", end="")  
    print()  
  
    if i <= n // 2:  
        x += 1  
    else:  
        x -= 1
```

# Pattern 101

```
#      *
#     **
#    * *
#   *  *
#  *   *
# *    *
#      *
#     *
```

```
n = 7
```

```
x = n // 2 + 1
```

```
for i in range(1, n + 1):
    for j in range(1, n // 2 + 2):
        if j == x or j == n // 2 + 1:
            print("*", end="")
        else:
            print(" ", end="")
    if i <= n // 2:
        x -= 1
    else:
        x += 1
    print()
```



## Pattern 102

```
# *****  
#  *      *  
#   *    *  
#    *  *  
#     *
```

```
n = 5  
x = 1  
y = 2 * n - 1  
  
for i in range(1, n + 1):  
    for j in range(1, 2 * n):  
        if j == x or j == y or i == 1:  
            print("*", end="")  
        else:  
            print(" ", end="")  
    print()  
    x += 1  
    y -= 1
```

## Pattern 103

```
# *           *
# * *       * *
# *   *   *   *
# *       *   *
# *   *   *   *
# * *       * *
# *           *
```

```
n = 7
```

```
x = 1
```

```
for i in range(1, n + 1):
    for j in range(1, n + 1):
        if j == x or j == n - x + 1 or (j == 1 and i != 1
and i != n) or (j == n and i != 1 and i != n):
            print("* ", end="")
        else:
            print("  ", end="")
    if i <= n // 2:
        x += 1
    else:
        x -= 1
    print()
```

## Pattern 104

```
# *      *      *
#      *      *      *
#      * * *
# * * * * * * *
#      * * *
#      *      *      *
# *      *      *
```

```
n = 7
```

```
for i in range(1, n + 1):
    for j in range(1, n + 1):
        if j == i or j == n - i + 1 or i == n // 2 + 1 or j
        == n // 2 + 1:
            print("* ", end="")
        else:
            print("  ", end="")
    print()
```

## Pattern 105

```
# *      * * * *
# *      *
# *      *
# * * * * * * * *
#      *      *
#      *      *
# * * * *      *
```

```
n = 7
```

```
for i in range(1, n + 1):
    for j in range(1, n + 1):
        if i == n // 2 + 1 or j == n // 2 + 1 or \
            (i == 1 and j >= n // 2 + 1) or \
            (i == n and j <= n // 2) or \
            (j == 1 and i <= n // 2) or \
            (j == n and i >= n // 2 + 1):
            print("* ", end="")
        else:
            print("  ", end="")
    print()
```

## Pattern 106

```
# *      *      *      *
# *      *      *      *
# * * * * * * * *
# *              *
# *              *
# *              *
# * * * * * * * *
```

```
n = 7
```

```
for i in range(1, n + 1):
    for j in range(1, n + 1):
        if (i == n // 2 or i == n) or \
            ((j == 1 or j == n) and i >= n // 2) or \
            (j % 2 == 1 and i <= n // 2):
            print("* ", end="")
        else:
            print("  ", end="")
    print()
```

## Pattern 107

```
# * * * * * * * * *
# *               *
# *   * * * * *   *
# *   *       *   *
# *   *   *   *   *
# *   *       *   *
# *   *   *   *   *
# *   * * * * *   *
# *               *
# * * * * * * * * *
```

```
n = 9
```

```
x = 1
```

```
for i in range(1, n + 1):
    for j in range(1, n + 1):
        if (j <= x or j >= n - x + 1) and j % 2 == 1:
            print("* ", end="")
        elif (j >= x and j <= n - x + 1) and i % 2 == 1:
            print("* ", end="")
        else:
            print("  ", end="")
    print()
    if i <= n // 2:
        x += 1
    else:
        x -= 1
```

## Pattern 108

```
#  *  *  *
# *  *  *  *
#  *  *  *
# *  *  *  *
#  *  *  *
# *  *  *  *
#  *  *  *
```

```
n = 7
```

```
for i in range(1, n + 1):
    for j in range(1, n + 1):
        if (i + j) % 2 == 1:
            print("* ", end="")
        else:
            print("  ", end="")
    print()
```

## Pattern 109

```
# *      *      *
# **     ***     **
# ***  *****  ***
# *****
# *****
# *****
# *****
```

```
n = 7
```

```
x = n
for i in range(1, n + 1):
    for j in range(1, 2 * n):
        if (j >= x and j <= 2 * n - x) or j <= n - x + 1 or
j >= n + x - 1:
            print("*", end="")
        else:
            print(" ", end="")
    x -= 1
    print()
```



## Pattern 110

```
#           *
#         * * *
#       *   *   *
#     *     *     *
# * * * * * * * * *
#   *       *       *
#     *     *     *
#       *   *   *
#         * * *
#           *
```

```
n = 9
c1 = (n - 1) // 2
c2 = 3 * n // 2 - 1

for i in range(n):
    for j in range(n):
        if i + j == c1 or i - j == c1 or j - i == c1 or i +
j == c2 or i == c1 or j == c1:
            print("* ", end="")
        else:
            print("  ", end="")
    print()
```

## Pattern 111

```
# * * * * * * * * *
# * * * *   * * * *
# * * *     * * *
# * *       * *
# *         *
# * *       * *
# * * *     * * *
# * * * *   * * * *
# * * * * * * * * *
```

```
n = 9
c1 = (n - 1) // 2
c2 = 3 * n // 2 - 1

for i in range(n):
    for j in range(n):
        if i + j <= c1 or i - j >= c1 or j - i >= c1 or i +
j >= c2:
            print("* ", end="")
        else:
            print("  ", end="")
    print()
```

## Pattern 112

```
# * * * * *
# * * *   * * *
# * *     * * *
# *       * *
# * *     *
# * * *   *
# * * * * *
# * * * * *
```

```
n = 8
c1 = (n - 1) // 2
c2 = 3 * n // 2 - 1

for i in range(n):
    for j in range(n):
        if i + j <= c1 or i - j >= c1 or j - i >= c1 or i +
j >= c2:
            print("* ", end="")
        else:
            print("  ", end="")
    print()
```

## Pattern 113

```
# *      *
# **     **
# ***  ***
# *****
# ***  ***
# **     **
# *      *
```

```
n = 7
px = 1

for i in range(1, n + 1):
    for j in range(1, n + 1):
        if j <= px or j >= n - px + 1:
            print("*", end="")
        else:
            print(" ", end="")

    if i <= n // 2:
        px += 1
    else:
        px -= 1

    print()
```

## Pattern 114

```
#      *****  
#      *****  
#      *****  
#      *****  
# *****
```

```
z = 1
```

```
n = 5
```

```
for i in range(n):  
    for j in range(n - 1, i, -1):  
        print(" ", end="")  
    for k in range(n):  
        print("*", end="")  
    z += 1  
    print()
```

## Pattern 115

```
# **  
# **  
# ****  
# ****  
# ****  
# ****  
# ****
```

```
for i in range(1, 7):  
    k = i + 1 if i % 2 != 0 else i  
    print("*" * k)
```

## Pattern 116

```
#      **  
#      **  
#     ***  
#     ***  
#    ****  
#    ****
```

```
for i in range(1, 7):  
    k = i + 1 if i % 2 != 0 else i  
    print(" " * (6 - k), "*" * k)
```

## Pattern 117

```
# *****  
# *****  
# ****  
# ****  
# **  
# **
```

```
n = 6
```

```
for i in range(n, 0, -1):  
    k = i + 1 if i % 2 != 0 else i  
    print("*" * k)
```



## Pattern 118

```
# *****  
# *****  
#      ****  
#      ****  
#          **  
#          **
```

```
n = 6
```

```
for i in range(n, 0, -1):  
    k = i + 1 if i % 2 != 0 else i  
    print(" " * (n - k) + "*" * k)
```

## Pattern 119

```
# *  
# *  
# **  
# **  
# ***  
# ***
```

```
n = 3
```

```
for i in range(1, n + 1):  
    for c in range(n - 1, 0, -1):  
        for j in range(i):  
            print("*", end="")  
        print()
```

## Pattern 120

```
#  *  
#  *  
# **  
# **  
# ***  
# ***
```

```
for i in range(1, 4):  
    for x in range(2, 0, -1):  
        for y in range(2, i - 1, -1):  
            print(" ", end="")  
        for j in range(i):  
            print("*", end="")  
        print()
```

## Pattern 121

```
# ***  
# ***  
# **  
# **  
# *  
# *
```

```
for i in range(3, 0, -1):  
    for x in range(2, 0, -1):  
        for j in range(i):  
            print("*", end="")  
        print()
```

## Pattern 122

```
# ***  
# ***  
#  **  
#  **  
#   *  
#   *
```

```
for i in range(3, 0, -1):  
    for x in range(2, 0, -1):  
        for y in range(2, i - 1, -1):  
            print(" ", end="")  
        for j in range(i):  
            print("*", end="")  
        print()
```

## Pattern 123

```
#  *
#  *
# ***
# ***
# *****
# *****
```

```
n = 3
z = 1
for i in range(n):
    for j in range(2, 0, -1):
        for x in range(n - 1, i - 1, -1):
            print(" ", end="")
        for y in range(z):
            print("*", end="")
        print()
    z += 2
```

## Pattern 124

```
#      **
#      **
#     *   *
#     *   *
#    *     *
#    *     *
# *           *
```

```
n = 7
x = n
for i in range(1, n + 1):
    for j in range(1, 2 * n + 1):
        if j == x or j == 2 * n - x + 1:
            print("*", end="")
        else:
            print(" ", end="")
    print()
    if i % 2 == 0:
        x -= 2
```

## Pattern 125

```
# *****  
#      ***  
#         *  
#      ***  
# *****
```

```
n = 3  
s1 = n * 2 - 1  
s2 = 3  
  
for i in range(1, n + 1):  
    print(" " * (i - 1), end="")  
    print("*" * s1)  
    s1 -= 2  
  
for i in range(1, n):  
    print(" " * (n - i - 1), end="")  
    print("*" * s2)  
    s2 += 2
```



## Pattern 126

```
#      * * * * *
#     * * * * *
#    * * * * *
#   * * * * *
#  * * * * *
# * * * * *
#* * * * *
# * * * * *
#  * * * * *
#   * * * * *
#    * * * * *
```

```
for i in range(1, 10):
    if i == 1 or i == 9:
        x = 6
        z = 4
    elif i == 2 or i == 8:
        x = 8
        z = 2
    elif i == 3 or i == 7:
        x = 9
        z = 1
    else:
        x = 10
        z = 0

    print(" " * z, end="")
    print("* " * x)
```

## Pattern 127

```
#   ***   ***  
#  *****  
#  *****  
#  *****  
#   *****  
#    *****  
#     *****  
#      ***  
#       *
```

```
n = 6
```

```
# Top part of the heart  
for i in range(n // 2, n + 1, 2):  
    print(" " * (n - i), end="")  
    print("*" * i, end="")  
    print(" " * (n - i), end="")  
    print("*" * i)
```

```
# Bottom part of the heart  
for i in range(n, 0, -1):  
    print(" " * (n - i), end="")  
    print("*" * (2 * i - 1))
```

## Pattern 128

```
#  ** **
#  *  *  *
#  *      *
#  *      *
#  *      *
#  *      *
#  *      *
```

```
for row in range(6):
    for col in range(7):
        if (row == 0 and col % 3 != 0) or (row == 1 and col
% 3 == 0) or (row - col == 2) or (row + col == 8):
            print("*", end="")
        else:
            print(" ", end="")
    print()
```

## Pattern 129: X-Max Tree

```
#          *
#         * *
#        * * *
#       * * * *
#      * * *
#     * * * *
#    * * * * *
#   * * * * * *
#  * * * * * *
#   * * * *
#    * * * *
#     * * * *
#      * * * *
```

```
height = 3
```

```
width = 4
```

```
space = width * 5
```

```
r = 1
```

```
m = 1
```

```
for r in range(1, height):
    for i in range(m, width + 1):
        for j in range(space, i - 1, -1):
            print(" ", end="")
        for k in range(1, i + 1):
            print("* ", end="")
        print()
    m += 2
    width += 2
```

```
for i in range(1, 5):
```

```
for j in range(space - 3, 0, -1):  
    print(" ", end="")  
for k in range(1, 5):  
    print("* ", end="")  
print()
```

## Pattern 130

```
# * * * * *
# *      * *
# *      *   *
# * *      *
# * * * * *
```

```
n = 5
```

```
for i in range(1, n + 1):
    for j in range(1, n + 1):
        if i == 1 or i == n or j == 1 or j == n or i + j ==
n + 1:
            print("* ", end="")
        else:
            print("  ", end="")
    print()
```

## Pattern 131

```
#   * *  
# *   *  
#     *  
#     *  
# * * * * *
```

```
n = 5  
mid = n // 2 + 1  
  
for i in range(1, n + 1):  
    for j in range(1, n + 1):  
        if j == mid or i == n or (i + j == mid and j <=  
mid):  
            print("* ", end="")  
        else:  
            print("  ", end="")  
    print()
```

## Pattern 132

```
# * * * * *
#           *
# * * * * *
# *
# * * * * *
```

```
n = 5
mid = n // 2 + 1

for i in range(1, n + 1):
    for j in range(1, n + 1):
        if i == 1 or i == n or i == mid or (j == 1 and i >=
mid) or (j == n and i < mid):
            print("* ", end="")
        else:
            print("  ", end="")
    print()
```



## Pattern 133

```
# * * * * *
#           *
# * * * * *
#           *
# * * * * *
```

```
n = 5
mid = n // 2 + 1

for i in range(1, n + 1):
    for j in range(1, n + 1):
        if i == 1 or i == n or i == mid or j == n:
            print("* ", end="")
        else:
            print("  ", end="")
    print()
```

## Pattern 134

```
# *      *
# *      *
# * * * * *
#      *
#      *
```

```
n = 5
mid = n // 2 + 1

for i in range(1, n + 1):
    for j in range(1, n + 1):
        if i == mid or (j == 1 and i <= mid) or j == n:
            print("* ", end="")
        else:
            print("  ", end="")
    print()
```

## Pattern 135

```
# * * * * *
# *
# * * * * *
#           *
# * * * * *
```

```
n = 5
mid = n // 2 + 1

for i in range(1, n + 1):
    for j in range(1, n + 1):
        if i == 1 or i == n or i == mid or (j == 1 and i <=
mid) or (j == n and i > mid):
            print("* ", end="")
        else:
            print("  ", end="")
    print()
```

## Pattern 136

```
# * * * * *
# *
# * * * * *
# *       *
# * * * * *
```

```
n = 5
mid = n // 2 + 1

for i in range(1, n + 1):
    for j in range(1, n + 1):
        if i == 1 or i == n or i == mid or j == 1 or (j ==
n and i > mid):
            print("* ", end="")
        else:
            print("  ", end="")
    print()
```

## Pattern 137

```
# * * * *  
#      *  
#     *  
#    *  
#   *  
#  *
```

```
n = 5
```

```
for i in range(1, n + 1):  
    for j in range(1, n):  
        if i == 1 or i + j == n + 1:  
            print("* ", end="")  
        else:  
            print("  ", end="")  
    print()
```

## Pattern 138

```
# * * * * *  
# *           *  
# * * * * *  
# *           *  
# * * * * *
```

```
n = 5  
mid = n // 2 + 1  
  
for i in range(1, n + 1):  
    for j in range(1, n + 1):  
        if i == 1 or i == n or i == mid or j == 1 or j ==  
n:  
            print("* ", end="")  
        else:  
            print("  ", end="")  
    print()
```

## Pattern 139

```
# * * * * *
# *           *
# * * * * *
#             *
# * * * * *
```

```
n = 5
mid = n // 2 + 1

for i in range(1, n + 1):
    for j in range(1, n + 1):
        if i == 1 or i == n or i == mid or (j == 1 and i <=
mid) or j == n:
            print("* ", end="")
        else:
            print("  ", end="")
    print()
```

## Pattern 140

```
#      *
#     * *
#    *****
#   *       *
#  *         *
```

```
n = 5
```

```
x = n
```

```
for i in range(1, n + 1):
    for j in range(1, 2 * n + 1):
        if j == x or j == n + i - 1:
            print("*", end="")
        elif j >= x and j <= n + i - 1 and i == n // 2 + 1:
            print("*", end="")
        else:
            print(" ", end="")
    print()
    x -= 1
```



## Pattern 141

```
# ****
# *   *
# *****
# *   *
# ****
```

```
n = 5
```

```
for i in range(1, n + 1):
    for j in range(1, n + 1):
        if j == 1 or (i == 1 or i == n or i == n // 2 + 1)
and j <= n - 1:
            print("*", end="")
            elif i != 1 and i != n and j == n:
                print("*", end="")
            else:
                print(" ", end="")
    print()
```

## Pattern 142

```
# *****  
# *  
# *  
# *  
# *****
```

```
n = 5
```

```
for i in range(1, n + 1):  
    for j in range(1, n + 1):  
        if i == 1 or i == n or j == 1:  
            print("*", end="")  
    print()
```

## Pattern 143

```
# ****  
# *   *  
# *   *  
# *   *  
# ****
```

```
n = 5
```

```
for i in range(1, n + 1):  
    for j in range(1, n + 1):  
        if j == 1 or (i == 1 or i == n) and j <= n - 1:  
            print("*", end="")  
        elif i != 1 and i != n and j == n:  
            print("*", end="")  
        else:  
            print(" ", end="")  
    print()
```

## Pattern 144

```
# *****  
# *  
# *****  
# *  
# *****
```

```
n = 5
```

```
for i in range(1, n + 1):  
    for j in range(1, n + 1):  
        if j == 1 or i == 1 or i == n or i == n // 2 + 1:  
            print("*", end="")  
    print()
```

## Pattern 145

```
# *****  
# *  
# *****  
# *  
# *
```

```
n = 5
```

```
for i in range(1, n + 1):  
    for j in range(1, n + 1):  
        if j == 1 or i == 1 or i == n // 2 + 1:  
            print("*", end="")  
        else:  
            print(" ", end="")  
    print()
```

## Pattern 146

```
# *****  
# *  
# * ***  
# *   *  
# *****
```

```
n = 5
```

```
for i in range(1, n + 1):  
    for j in range(1, n + 1):  
        if j == 1 or i == 1 or i == n or (i > n // 2 and j  
== n) or (i == (n // 2 + 1) and j > n // 2):  
            print("*", end="")  
        else:  
            print(" ", end="")  
    print()
```

## Pattern 147

```
# *      *
# *      *
# * * * * *
# *      *
# *      *
```

```
n = 5
```

```
for i in range(1, n + 1):
    for j in range(1, n + 1):
        if j == 1 or j == n or i == n // 2 + 1:
            print("*", end=" ")
        else:
            print(" ", end=" ")
    print()
```

## Pattern 148

```
# * * * * *  
#      *  
#      *  
#      *  
# * * * * *
```

```
n = 5
```

```
for i in range(1, n + 1):  
    for j in range(1, n + 1):  
        if i == 1 or i == n or j == n // 2 + 1:  
            print("*", end=" ")  
        else:  
            print(" ", end=" ")  
    print()
```



## Pattern 149

```
# * * * * *
#      *
#      *
#      *
#      *
# * * *
```

```
n = 5
```

```
for i in range(1, n + 1):
    for j in range(1, n + 1):
        if i == 1 or (i == n and j <= n // 2 + 1) or j == n
// 2 + 1:
            print("*", end=" ")
        else:
            print(" ", end=" ")
    print()
```

## Pattern 150

```
# *  *
# * *
# *
# * *
# *  *
```

```
n = 5
```

```
x = n // 2 + 1
```

```
for i in range(1, n + 1):
    for j in range(1, n // 2 + 2):
        if j == 1 or j == x:
            print("*", end=" ")
        else:
            print(" ", end=" ")
    if i <= n // 2:
        x -= 1
    else:
        x += 1
    print()
```

## Pattern 151

```
# *  
# *  
# *  
# *  
# * * *
```

```
n = 5
```

```
for i in range(1, n + 1):  
    for j in range(1, n + 1):  
        if j == 1 or (i == n and j <= (n # 2) + 1):  
            print("* ", end="")  
    print()
```

## Pattern 152

```
# *      *
# * *    * *
# *      * *
# *      *
# *      *
```

```
n = 5
```

```
x = 1
```

```
for i in range(1, n + 1):
    for j in range(1, n + 1):
        if j == 1 or j == n or (j == x or j == n - x + 1)
and i <= (n // 2) + 1:
            print("* ", end="")
        else:
            print("  ", end="")
    x += 1
    print()
```

## Pattern 153

```
# *      *
# * *    *
# *   *  *
# *     * *
# *      *
```

```
n = 5
```

```
for i in range(1, n + 1):
    for j in range(1, n + 1):
        if j == 1 or j == n or i == j:
            print("* ", end="")
        else:
            print("  ", end="")
    print()
```

## Pattern 154

```
# * * * * *  
# *           *  
# *           *  
# *           *  
# * * * * *
```

```
n = 5
```

```
for i in range(1, n + 1):  
    for j in range(1, n + 1):  
        if j == 1 or j == n or i == 1 or i == n:  
            print("* ", end="")  
        else:  
            print("  ", end="")  
    print()
```

## Pattern 155

```
# * * *
# *   *
# * * *
# *
# *
```

```
n = 5
x = (n // 2) + 1

for i in range(1, n + 1):
    for j in range(1, n + 1):
        if (i == 1 and j <= x) or j == 1 or (j == x and i
<= x) or (i == x and j <= x):
            print("* ", end="")
        else:
            print("  ", end="")
    print()
```

## Pattern 156

```
# * * * * *
# *           *
# *           *
# *           *
# *           *
# *           * *
# * * * * *
#                *
```

```
n = 7
x = n - n // 2 + 1

for i in range(1, n + 1):
    for j in range(1, n + 1):
        if (i == 1 or i == x + 1) and j <= x + 1 or (j == 1
or j == x + 1) and i <= x + 1 or (j == i and i >= x):
            print("* ", end="")
        else:
            print("  ", end="")
    print()
```



## Pattern 157

```
# * * *
# *   *
# * * *
# * *
# *   *
```

```
n = 5
```

```
for i in range(1, n + 1):
    x = 1
    for j in range(1, (n // 2) + 2):
        if j == 1 or i == 1 or i == (n // 2) + 1 or (i <= n
// 2 and j == (n // 2) + 1) or j == x:
            print("* ", end="")
        else:
            print("  ", end="")
        x += 1 if i > n // 2 else 0
    print()
```

## Pattern 158

```
# * * * * *
# *
# * * * * *
#           *
# * * * * *
```

```
n = 5
for i in range(1, n + 1):
    for j in range(1, n + 1):
        if i == 1 or i == n or i == n // 2 + 1 or (j == 1
and i <= n // 2 + 1) or (j == n and i > n // 2 + 1):
            print("* ", end="")
        else:
            print("  ", end="")
    print()
```

## Pattern 159

```
# * * * * *  
#      *  
#      *  
#      *  
#      *  
#      *
```

```
n = 5  
for i in range(1, n + 1):  
    for j in range(1, n + 1):  
        if i == 1 or j == n // 2 + 1:  
            print("* ", end="")  
        else:  
            print("  ", end="")  
    print()
```

## Pattern 160

```
# *      *
# *      *
# *      *
# *      *
# * * * * *
```

```
n = 5
for i in range(1, n + 1):
    for j in range(1, n + 1):
        if j == 1 or j == n or i == n:
            print("* ", end="")
        else:
            print("  ", end="")
    print()
```

## Pattern 161

```
# *      *
#  *    *
#   *  *
#    * *
#     *
```

```
n = 5
x = 1
for i in range(1, n + 1):
    for j in range(1, 2 * n):
        if j == x or j == 2 * n - x:
            print("*", end="")
        else:
            print(" ", end="")
    print()
    x += 1
```

## Pattern 162

```
# *   *   *  
# *   * * *  
# * *   * *  
# **     **  
# *       *
```

```
n = 5
```

```
x = n
```

```
for i in range(1, n + 1):  
    for j in range(1, 2 * n):  
        if j == 1 or j == 2 * n - 1 or j == x or j == 2 * n  
- x:  
            print("*", end="")  
        else:  
            print(" ", end="")  
    print()  
    x -= 1
```

## Pattern 163

```
# *      *
#      *  *
#      *
#      *  *
# *      *
```

```
n = 5
```

```
for i in range(1, n + 1):
    for j in range(1, n + 1):
        if j == i or j == n - i + 1:
            print("* ", end="")
        else:
            print("  ", end="")
    print()
```

## Pattern 164

```
# *      *
#      *      *
#      *
#      *
#      *
```

```
n = 5
```

```
for i in range(1, n + 1):
    for j in range(1, n + 1):
        if (j == i or j == n - i + 1) and i <= n // 2 + 1
or (j == n // 2 + 1 and i > n // 2):
            print("* ", end="")
        else:
            print(" ", end="")
    print()
```



## Pattern 165

```
# * * * * *
#       *
#     *
#   *
# * * * * *
```

```
n = 5
```

```
for i in range(1, n + 1):
    for j in range(1, n + 1):
        if i == 1 or i == n or j == n - i + 1:
            print("* ", end="")
        else:
            print("  ", end="")
    print()
```

In every line of code, they have woven a story of innovation and creativity. This book has been your compass in the vast world of Python.

Close this chapter knowing that every challenge overcome is an achievement, and every solution is a step toward mastery.

Your code is the melody that gives life to projects. May they continue creating and programming with passion!

Thank you for allowing me to be part of your journey.

With gratitude,  
Hernando Abella  
Author of 150+ Python Pattern Programs

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