



# 150+ Python

# TOP Python exercises to feed your creativity with if statements and loops



A stylized illustration of a blue sky with white stars and a low-poly orange and yellow sun or moon in the bottom left corner. The sun/moon is partially visible, showing a low-poly, geometric design. The stars are scattered across the sky, some appearing as simple white dots and others as small, stylized white shapes. The overall style is clean and modern, with a focus on geometric shapes and a limited color palette.

Hernando Abella  
the coding king

# 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# / \n# /  \n# /   \n# \   /\n# \  /\n# \ /\n#  \/
```

# \*

```
n = 10\n\npx = n // 2\npy = n // 2\n\nfor i in range(1, n + 1):\n    for j in range(1, n + 1):\n        if (i == 1 or i == n) and j == n // 2:\n            print("*", end="")\n        elif j == px:\n            print("/", end="")\n        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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