Level 1: Beginner

Task 2: Generate and print simple number patterns.

By Shradha Pujari




Number Pyramid Pattern

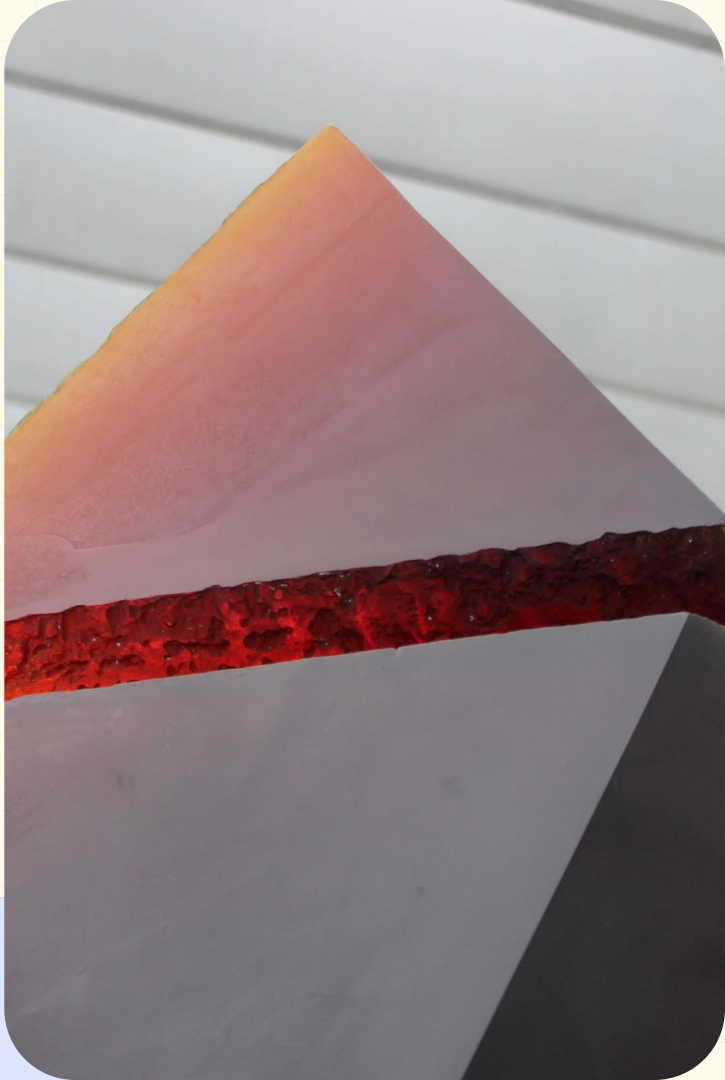
This presentation explains how to generate and print a number pyramid pattern in Python. It provides a step-by-step explanation of the code and demonstrates the output.

Introduction

The program uses loops to control the structure of the pattern.

The number pyramid pattern is a visually appealing pattern that consists of numbers arranged in a pyramid shape.

This presentation will explain how to write a program in Python to generate and print a number pyramid pattern.



Python code

```
rows = 5 # Number of rows in the pyramid
# Loop through each row
for i in range(1, rows + 1):
# Print spaces before numbers in each row
for j in range(rows - i):
print(" ", end="") # Print numbers in ascending order for each row
for j in range(1, i + 1):
print(j, end=" ") # Print numbers in descending order for each row (except the first)
if i > 1:
for j in range(i - 1, 0, -1):
 print(j, end=" ") # Move to the next line print()
```

Code Explanation

- The code starts by defining the number of rows in the pyramid using the `rows` variable.
- It then uses an outer loop to iterate through each row of the pyramid.
- Within the outer loop, there are two inner loops:
- The first inner loop prints the spaces before the numbers in each row to create the pyramid shape.
- The second inner loop prints the numbers in ascending order for each row.
- If the row number is greater than 1, an additional inner loop is used to print the numbers in descending order, completing the pyramid shape.
- After each row is printed, the program moves to the next line using the `print()` statement.

Output

```
    1
   1 2 1
  1 2 3 2 1
 1 2 3 4 3 2 1
1 2 3 4 5 4 3 2 1
```

Thank you. Please feel free to ask any questions.
😄