Day	Problem List
Day 1	

1. Simple Triangle Patterns

Right-Angled Triangle

```
*
**
***
****
*****
```

Inverted Right-Angled Triangle

```
*****
****
***
**
*
```

2. Pyramid Patterns

Star Pyramid

```
    *
   ***
  *****
 *******
*********
```

Number Pyramid

```
    1
   121
  12321
 1234321
123454321
```

3. Inverted Pyramid Patterns

Inverted Star Pyramid

```
*********
 *******
  *****
   ***
    *
```

Inverted Number Pyramid

```
123454321
 1234321
  12321
   121
    1
```

Number Triangle

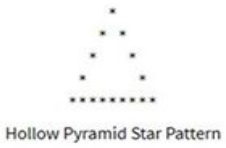
```
1
12
123
1234
12345
```

Character Triangle

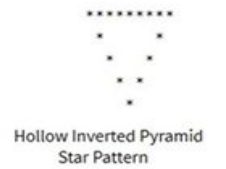
```
A
AB
ABC
ABCD
ABCDE
```

Character Pyramid

```
    A
   ABA
  ABCBA
 ABCDCBA
ABCDEDCBA
```



Hollow Pyramid Star Pattern



Hollow Inverted Pyramid Star Pattern

Diamond Star Pattern

Hollow Diamond Star Pattern

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

Number pattern 18

For N=3 print above pattern

Right Arrow Star Pattern

Left Arrow Star Pattern

```
ABCDEFEDCBA
ABCDE EDCBA
ABCD   DCBA
ABC     CBA
AB       BA
A         A
```

Day 2	Write a program to check if a number is positive, negative, or zero
	Write a program to find the largest of three numbers
	Write a program to check if a year is a leap year
	Write a program to check if a character is a vowel or consonant
	Write a program to find if a triangle is valid based on angles or sides
	Write a program to check for a vowel or consonant using switch-case
	Write a program to perform unit conversion (e.g., cm to m, kg to g)
	Write a program to check for uppercase, lowercase, or special character
	Write a program to find the sum of the first N natural numbers
	Write a program to check if a number is prime
	Write a program to check if a number is a palindrome
	Write a program to check if a number is an Armstrong number
	Write a program to calculate the GCD and LCM of two numbers
	Write a program to find integers a, b such that $n = a^3 \times b$, where b is cube-free
	Write a program to generate all prime numbers between 1 and N
Day 3	Write a program to find the factorial of a number
	Write a program to print Fibonacci sequence
	Write a program to find the sum of natural numbers
	Write a program to print the Nth term of Fibonacci series
	Write a program to print numbers from 1 to N
	Write a program to find the sum of digits of a number
	Write a program to print numbers from N to 1
	Write a program to find the power of two using recursion
	Write a program to count the digits in a number using recursion
	Write a program to reverse a string using recursion
	Write a program to check if a string is a palindrome using recursion
	Write a program to find the greatest common divisor (GCD)
	Write a program to perform binary search
Day 4	Write a program to find the second largest element in an array
	Write a program to check if an array is sorted
	Write a program to reverse an array
	Write a program to remove all the duplicate elements from an array
	Write a program to left rotate an array by d places
	Write a program to move all the zeros to the end
	Write a program to find leaders in an array
	Write a program to find the maximum difference
	Write a program to find the frequency in a sorted array
Day 5	Write a program to find the maximum consecutive 1's in a binary array
	Write a program to find the majority element in an array
	Write a program to find the maximum subarray sum
	Write a program to find the maximum or minimum sum of a subarray of size K
	Write a program to find a subarray with a given sum using the sliding window technique
	Write a program to find the maximum length even-odd subarray
	Write a program to find the sum of any subarray using the prefix sum array
	Write a program to find the equilibrium point

Day 6	Write a program to sort an array which consists of only 0, 1, and 2 without using sorting
	Write a program to find the union and intersection of two sorted arrays
	Write a program to find all pairs in an array whose sum is equal to a given number
	Write a program to find all elements that appear more than n/k times in an array
	Write a program to find common elements in 3 sorted arrays
	Write a program to solve the chocolate distribution problem
Day 7	Write a program to check if the kth bit is set
	Write a program to count set bits
	Write a program to check if a number is a power of two
	Write a program to find the only odd occurring number
	Write a program to find two odd appearing numbers
	Write a program to find the missing number in an array
	Write a program to count the number of bits to be flipped to convert A to B
	Write a program to find the XOR of numbers from L to R
Day 8	Write a program to rearrange positive and negative integers alternatively in an array
	Write a program to create another array with the product of all elements except the ith element
	Write a program to find a peak element in an array
	Write a program to find if there is a pair with sum x in a sorted array
	Write a program to find a triplet in a sorted array
	Write a program to solve the trapping rain water problem
	Write a program to find the best time to buy and sell stock
Day 9	Write a program to print a matrix in a snake pattern
	Write a program to print boundary elements of a matrix
	Write a program to print the transpose of a matrix
	Write a program to rotate a matrix by 90 degrees
	Write a program to perform spiral traversal of a matrix
	Write a program to reverse a string
	Write a program to check whether a string is palindrome or not
	Write a program to find duplicate characters in a string