# PROBLEM SOLVING

NOOB TO NINJA

# **Numbers**

#### 1. Fibonacci Series

www.javatpoint.com/fibonacci-series-in-java

2. Palindrome Number

www.javatpoint.com/palindrome-program-in-java

3. Armstrong Number

www.javatpoint.com/armstrong-number-in-java

4. Factorial

www.javatpoint.com/factorial-program-in-java

5. Prime or Not

www.javatpoint.com/prime-number-program-in-java

6. Decimal to Binary

www.javatpoint.com/java-decimal-to-binary

7. Automorphic Number

www.javatpoint.com/automorphic-number-program-in-java

8. Find Factors

www.programiz.com/java-programming/examples/factors-number

9. GCD / HCF

www.javatpoint.com/java-program-to-find-gcd-of-two-numbers

10. Twisted Prime

www.pencilprogrammer.com/java-programs/twisted-prime/

# **Array**

1. In The Sequence 1,2,3,4,5, If the Input is 3, The Output is 3,4,5,1,2

https://github.com/arihara-sudhan/500-Days-CODING-CHALLENGE/blob/deb77c986013a3d1b4c615f07d53e6539dca656a/Sequence.java

2. Sort Odd Numbers in Descending Order & Even Numbers in Ascending Order

https://www.geeksforgeeks.org/sort-even-numbers-ascending-order-sort-odd-numbers-descending-order/

3. Find Mode of The Array

https://www.tutorialspoint.com/Java-program-to-calculate-mode-in-Java

4. Merge Two Sorted Arrays without Repetition

https://javaconceptoftheday.com/merge-two-arrays-into-single-sorted-array-without-duplicates-in-java/

6. Two-sum

https://medium.com/@bhprtk/two-sum-98979af1ab7a

7. Remove Duplicates in An Array

https://www.javatpoint.com/java-program-to-remove-duplicate-element-in-an-array

8. Quick Sort

https://www.javatpoint.com/quick-sort

10. SubArray with Given Sum

https://www.javatpoint.com/subarray-with-given-sum

# Matrix

#### 1. Spiral Pattern

https://www.javatpoint.com/java-program-to-print-spiral-pattern

## 2. Matrix Multiplication

https://www.javatpoint.com/java-program-to-multiply-two-matrices

#### 3. Sum of Diagonal Elements

https://www.geeksforgeeks.org/java-program-to-compute-the-sum-of-diagonals-of-a-matrix/

#### 4. Greatest Row Sum

https://www.geeksforgeeks.org/java-program-to-compute-the-sum-of-diagonals-of-a-matrix/

# 5. Check for Identity Matrix

https://www.javatpoint.com/java-program-to-determine-whether-a-given-matrix-is-an-identity-matrix

#### 6. Check for Identity Matrix

https://www.javatpoint.com/java-program-to-determine-whether-a-given-matrix-is-an-identity-matrix

#### 7. Sum of Matrices

https://www.javatpoint.com/java-program-to-add-two-matrices

## 8. Binary Search on Matrix

https://www.geeksforgeeks.org/search-element-sorted-matrix/

#### 9. Rotate A Matrix by 90 Degrees

https://www.javatpoint.com/rotate-matrix-by-90-degrees-in-java

#### 10. Transpose A Matrix

https://www.javatpoint.com/java-program-to-transpose-matrix

# **String**

#### 1. Palindrome

https://www.programiz.com/java-programming/examples/palindrome-number

2. Reverse Words Order in a Given String

https://www.geeksforgeeks.org/reverse-words-in-a-given-string/

3. Anagram

www.javatpoint.com/java-program-to-check-whether-two-strings-are-anagram-or-not

4. Reverse Each Word in a Given String

https://www.javatpoint.com/java-program-to-reverse-each-word-in-string

5. Isogram

https://www.geeksforgeeks.org/check-string-isogram-not/

6. If Input is a3b5c2, Output is aaabbbbbcc

https://www.quora.com/Can-any-one-write-a-program-in-Java-for-Input-as-a3b5c2-and-output-should-be-aaabbbbbcc

7. Check If A String Contains A Substring

https://www.programiz.com/java-programming/examples/check-string-contains-substring

8. Count Occurences of A Character in String

https://javarevisited.blogspot.com/2012/12/how-to-count-occurrence-of-character-in-String.html#axzz7qNMqu5nv

9. Find All Permutations of A String

https://javarevisited.blogspot.com/2015/08/how-to-find-all-permutations-of-string-java-example.html

10. Valid Paranthesis Problem

https://www.javatpoint.com/valid-parentheses-problem-in-java

# **Patterns**

#### 1. X Pattern

https://www.tutorialspoint.com/java-program-to-print-x-star-pattern

## 2. Inverted Pyramid Pattern

https://www.tutorialspoint.com/java-program-to-print-inverted-star-pattern

#### 3. Square Pattern

https://www.tutorialspoint.com/java-program-to-print-square-star-pattern

## 4. Pyramid Pattern

https://www.tutorialspoint.com/java-program-to-print-pyramid-star-pattern

#### 5. X-Star Pattern

https://www.tutorialspoint.com/java-program-to-print-x-star-pattern

# 6. Left Triangle Pattern

https://www.tutorialstonight.com/pattern-program-in-java

## 7. Right Triangle Pattern

https://www.tutorialstonight.com/pattern-program-in-java

#### 8. Eight Pattern

https://www.tutorialspoint.com/java-program-to-print-8-star-pattern

## 9. Left Down Triangle Pattern

https://www.tutorialstonight.com/pattern-program-in-java

#### 10. Hollow Pyramid Pattern

https://www.tutorialstonight.com/pattern-program-in-java

# Must Know Problems

## 1. Binary Search

https://www.javatpoint.com/binary-search-in-java

#### Implement All The OOPS Concepts

https://www.geeksforgeeks.org/object-oriented-programming-oops-concept-in-java/

#### 3. Bubble Sort

https://www.javatpoint.com/bubble-sort-in-java

#### 4. Insertion Sort

https://www.geeksforgeeks.org/insertion-sort/

#### 5. Pointers of C

https://www.programiz.com/c-programming/c-pointers

# 6. File Operations in Java

https://www.javatpoint.com/file-operations-in-java

#### 7. Implement Stack in Java

https://www.programiz.com/java-programming/examples/stack-implementation

#### 8. Implement Queue in Java

https://www.programiz.com/java-programming/examples/queue-implementation

## 9. Implement A Linked List in Java

https://www.programiz.com/java-programming/examples/linkedlist-implementation

#### 10. Collection Framework in Java

https://www.javatpoint.com/collections-in-java

## 11. Multithreading in Java

https://www.javatpoint.com/multithreading-in-java