1)Given an array . Create two arrays one for Odd Elements and other for Even Elements.

Input: [10,3,5,12,17,22]

Output:

[10,12,22]

[3,5,7]

import java.util.Arrays;

public class SeparateOddEven {

public static void main(String[] args) {

int[] inputArray = {10, 3, 5, 12, 17, 22};

// Create separate arrays for even and odd elements

int[] evenArray = new int[getEvenCount(inputArray)];

int[] oddArray = new int[getOddCount(inputArray)];

// Separate elements into even and odd arrays

separateElements(inputArray, evenArray, oddArray);

System.out.println("Even elements: " + Arrays.toString(evenArray));

System.out.println("Odd elements: " + Arrays.toString(oddArray));

}

// Count even elements

private static int getEvenCount(int[] arr) {

int count = 0;

for (int num : arr) {

if (num % 2 == 0) {

count++;

2) Compression of String

Input: AAABBC

Output: A3B2C

Input: AAABBCCCDE

Output: A3B2C3DE

public class StringCompression {

public static String compress(String text) {

StringBuilder compressed = new StringBuilder();

int countConsecutive = 0;

char currentChar = text.charAt(0);

for (int i = 0; i < text.length(); i++) {

if (text.charAt(i) == currentChar) {

countConsecutive++;

} else {

compressed.append(currentChar);

if (countConsecutive > 1) {

compressed.append(countConsecutive);

}

currentChar = text.charAt(i);

countConsecutive = 1;

}

}

// Handle the last character

compressed.append(currentChar);

if (countConsecutive > 1) {

compressed.append(countConsecutive);

}

return compressed.toString();

}

public static void main(String[] args) {

String text1 = "AAABBC";

String text2 = "AAABBCCCDE";

String compressedText1 = compress(text1);

String compressedText2 = compress(text2);

System.out.println("Original: " + text1 + ", Compressed: " + compressedText1);

System.out.println("Original: " + text2 + ", Compressed: " + compressedText2);

}

}

3) Input : zohocorporationteam

Output :

z o h o c o r

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i o n t e a m

public class StaircaseArrangement {

public static void main(String[] args) {

String text = "zohocorporationteam";

String arrangedText = staircaseArrangement(text);

System.out.println(arrangedText);

}

public static String staircaseArrangement(String text) {

StringBuilder result = new StringBuilder();

int spaces = 0;

for (int i = text.length() - 1; i >= 0; i--) {

result.append(" ".repeat(spaces)).append(text.charAt(i));

result.append("\n");

spaces++;

}

// Remove the extra newline at the end

return result.substring(0, result.length() - 1);

}

}