

Task 5: String Handling – Count of Anagram Substrings

Aim

To write a Java program to count the number of substrings in a given text that are anagrams of a given pattern.

Algorithm

1. Start the program.
2. Read the input string text.
3. Read the input string pattern.
4. Find the length of pattern and store it in k.
5. Initialize a counter variable count = 0.
6. Sort the characters of the pattern and store it as sortedPattern.
7. Traverse the text from index 0 to text.length() - k:
 - Extract substring of length k.
 - Sort the substring characters.
 - If sorted substring equals sortedPattern, increment count.
8. Print the value of count.
9. Stop the program.

Program

```
import java.util.Arrays;
import java.util.Scanner;
public class AnagramCount {
    // Function to sort characters of a string
    static String sortString(String str) {
        char[] charArray = str.toCharArray();
        Arrays.sort(charArray);
        return new String(charArray);
    }
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        System.out.print("Enter the text: ");
        String text = sc.nextLine();
        System.out.print("Enter the pattern: ");
        String pattern = sc.nextLine();
        int k = pattern.length();
        int count = 0;
        String sortedPattern = sortString(pattern);
        for (int i = 0; i <= text.length() - k; i++) {
            String substring = text.substring(i, i + k);
            if (sortString(substring).equals(sortedPattern)) {
                count++;
            }
        }
    }
}
```

```
        System.out.println("Number of anagram substrings: " + count);
    }
}
```

Sample Input 1

Enter the text: forxxorfxdofr

Enter the pattern: for

Output 1

Number of anagram substrings: 3

Sample Input 2

Enter the text: aabaabaa

Enter the pattern: aaba

Output 2

Number of anagram substrings: 4

Result

Thus, the Java program to count the number of substrings in a text that are anagrams of a given pattern was successfully implemented and executed.