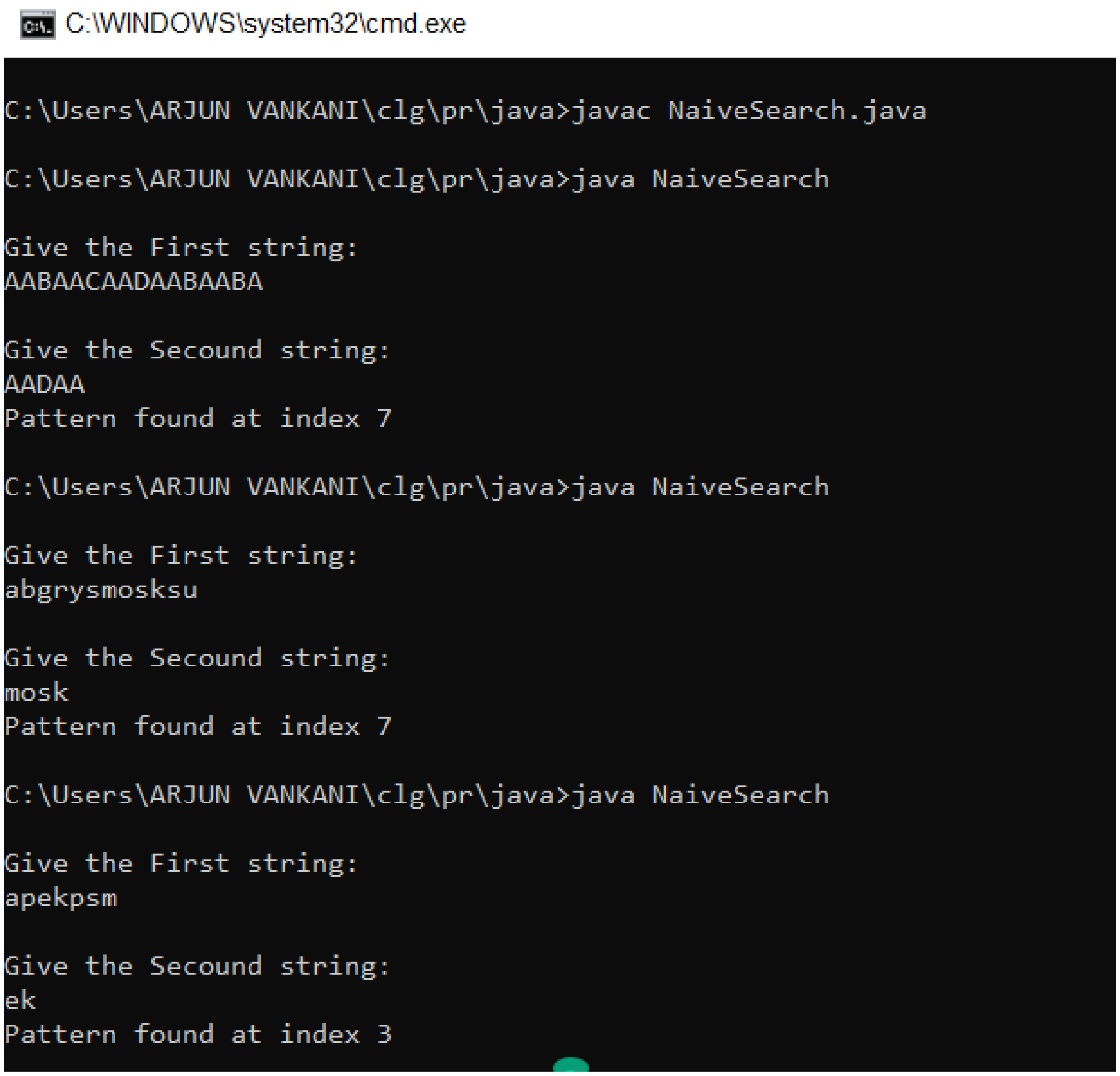
Analysis and Design of Algorithm

Q-12) Implementation of Naïve String Search Algorithm

Code:

```
import java.util.Scanner;

public class NaiveSearch {

        public static void search(String s1, String s2)
        {
                int M = s2.length();
                int N = s1.length();

                for (int i = 0; i <= N - M; i++) {

                        int j;
                        for (j = 0; j < M; j++)
                                if (s1.charAt(i + j) != s2.charAt(j))
                                        break;
                        if (j == M)
                                System.out.println("Pattern found at index " + (i+1));
                }
        }
        public static void main(String[] args)
        { Scanner num = new Scanner(System.in);

                System.out.println("\nGive the First string:\t");
                String s1 = num.nextLine();
                System.out.println("\nGive the Secound string:\t");
                String s2 = num.nextLine();

                search(s1, s2);
        }
}
```

Output:



```
C:\WINDOWS\system32\cmd.exe

C:\Users\ARJUN VANKANI\clg\pr\java>javac NaiveSearch.java

C:\Users\ARJUN VANKANI\clg\pr\java>java NaiveSearch

Give the First string:
AABAACAADAABAABA

Give the Secound string:
AADAA
Pattern found at index 7

C:\Users\ARJUN VANKANI\clg\pr\java>java NaiveSearch

Give the First string:
abgrysmosksu

Give the Secound string:
mosk
Pattern found at index 7

C:\Users\ARJUN VANKANI\clg\pr\java>java NaiveSearch

Give the First string:
apekpsm

Give the Secound string:
ek
Pattern found at index 3
```

- The naïve string-matching algorithm is essentially the most popular strategy to discovering the positions of stated patterns in a given textual content for numerous causes like no pre-processing requirement, no additional house for operation, and so on.

- Slide the pattern over text one by one and check for a match. If a match is found, then slides by 1 again to check for subsequent matches.

It takes O(m + n) to O(m*n) time