# Pattern Searching

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Problem: This is a basic Pattern search problem where a text and a word will be given. The task is to find in what all positions the word is present in the text.

Example:

```
Input: text = "geeks for geeks"
       word = "geeks"
Output: 0 10
Explanation: The word "geeks" can be found in two positions 0 & 10.

Input: arr1[] = "Welcome to the world of geeks"
       word = "world"
Output: 15
Explanation: The word "world" can be found at index position 15.
```

Solution:
The idea is to use the indexOf() function of the String class in Java.

- First, find the first occurrence of the pattern in the text using the indexOf() method. Let's say this position is denoted by *pos*.
- Now, to find all occurrences, what we can do is we can continue finding the occurrence of pattern in the text from (pos+1)th position using the indexOf() method till pos becomes negative.

Implementation:

```java
// Java implementation of the above approach
import java.util.*;

class GfG {

    static void patSearch(String txt, String pat)
    {
        int pos = txt.indexOf(pat);

        while(pos >= 0)
        {
            System.out.print(pos + " ");
            pos = txt.indexOf(pat, pos + 1);
        }
    }

    public static void main(String args[])
    {
        String txt = "geeks for geeks";
        String pat = "geeks";

        patSearch(txt, pat);
    }
}
```

Output:

```
0 10
```