

Search Pattern (Rabin-Karp Algorithm)

Given two strings, one is a text string and other is a pattern string. The task is to print the indexes of all the occurrences of pattern string in the text string. For printing, Starting Index of a string should be taken as 1.

Example 1:

Input:

```
S = "batmanandrobinarebat", pat = "bat"
```

Output: 1 18

Explanation: The string "bat" occurs twice in S, one starts at index 1 and the other at index 18.

Example 2:

Input:

```
S = "abesdu", pat = "edu"
```

Output: -1

Explanation: There's not substring "edu" present in S.

Your Task:

You don't need to read input or print anything. Your task is to complete the function **search()** which takes the string S and the string pat as inputs and returns an array denoting the start indices (1-based) of substring pat in the string S.

Expected Time Complexity: $O(|S|*|pat|)$.

Expected Auxiliary Space: $O(1)$.

Constraints:

$1 \leq |S| \leq 10^5$

$1 \leq |pat| < |S|$