Task 6

Searching for a Sequence in a Stack

Given a stack and a smaller array representing a sequence, write a function that determines if the sequence is present in the stack. Consider the sequence present if, upon popping the elements, all elements of the array appear consecutively in the stack.

ANS:

```
package Assigmentday12.com;
import java.util.Stack;
public class Task6 {
  static class SequenceSearcher {
     public static boolean isSequencePresent(Stack<Integer> stack,
int[] sequence) {
        int sequenceIndex = 0;
        while (!stack.isEmpty() && sequenceIndex <
sequence.length) {
           int poppedElement = stack.pop();
           if (poppedElement == sequence[sequenceIndex]) {
              sequenceIndex++;
           } else {
              stack.push(poppedElement);
           }
        }
        return sequenceIndex == sequence.length;
     }
  }
  public static void main(String[] args) {
     Stack<Integer> stack = new Stack<>();
     stack.push(3);
     stack.push(2);
     stack.push(1);
     int[] sequence = {1, 2, 3};
     System.out.println("Sequence present: " +
SequenceSearcher.isSequencePresent(stack, sequence));
  }
}
```

ANS:

```
Sequence present: true
```