Program to check if two stacks are equal

Posted on August 14, 2019 | by Prashant Yadav

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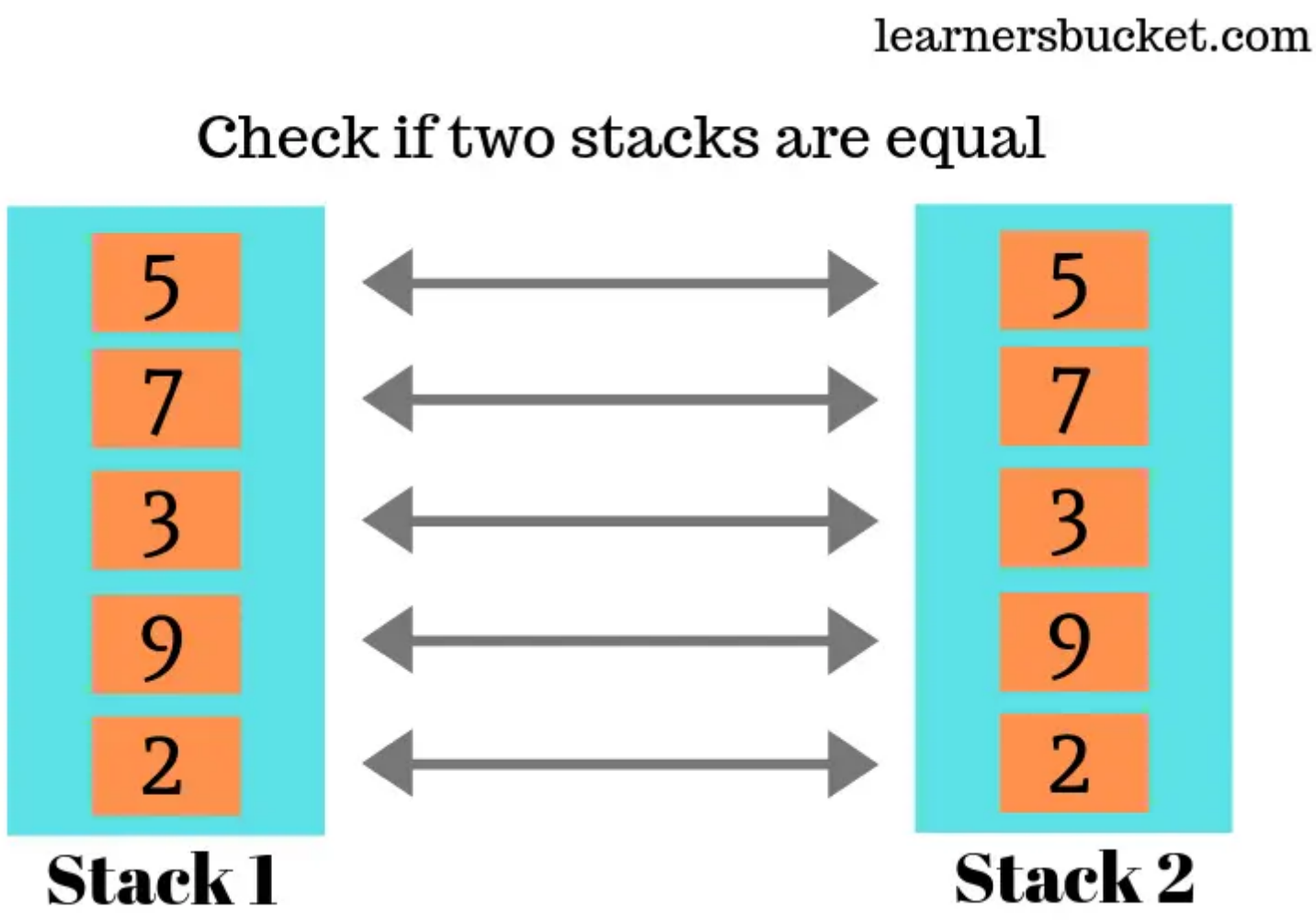
An algorithm to check if two stacks are equal in javascript.

Example

```
Input:
2 9 3 7 5
2 9 3 7 5

Output:
true
```



Implementation

- First we will check if the length of both the stacks are same, if they are not equal then return `false`.

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- If the length are same, then check each element in both the stacks by peeking the elements.
- If they are equal then pop the elements else return `false`.
- At the end if all elements are same in both the stack then return `true`.

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```
let equalStacks = (stack1, stack2) => {
  //If length is not equal
  //Then return false
  if(stack1.size() !== stack2.size()){
    return false;
  }

  //Check if each element in both the stack are equal
  while(!stack1.isEmpty()){
    if(stack1.peek() === stack2.peek()){
      stack1.pop();
      stack2.pop();
    }else{
      return false;
    }
  }

  return true;
}
```

Copy

```
Input:
let stack1 = new stackUsingLL();
stack1.push(2);
stack1.push(9);
stack1.push(3);
stack1.push(7);
stack1.push(5);

let stack2 = new stackUsingLL();
stack2.push(2);
stack2.push(9);
stack2.push(3);
stack2.push(7);
stack2.push(5);

console.log(equalStacks(stack1, stack2));

Output:
true
```

Time complexity: O(n).

Space complexity: O(1).

Time and Space complexity

- We are checking each element in both the stack, so Time complexity is O(n).
- We are using constant space, so Space complexity is O(1).

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