

# READ.ME

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## Construct Week: Java Programs for Stack Operations and String Manipulation

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### Project Overview

This project contains Java implementations of two primary tasks:

1. Removing vowels from a given string.
2. Implementing a stack using an array.

### File Structure:

```
Construct_Week/
|
├── ArrayStack.java      # Implementation of Stack using Array
├── Operations_on_Stack.java # Main file to demonstrate Stack operations
└── RemoveVowels.java    # Program to remove vowels from a given string
```

### Task Details

#### Question 1: Remove Vowels from a String

Objective:

Write a Java program that removes all vowels from a given string.

Files Involved:

- RemoveVowels.java

Functionality:

- The program prompts the user to enter a string.
- The vowels are removed from the string using a custom method.
- The modified string is displayed with all vowels removed.

Sample Input and Output:

Input: Enter a string: hello, world!

Output: The string with vowels removed is: hll, wrld!

## Question 2: Implement a Stack using an Array

Objective:

Implement a stack using an array in Java with the following functionalities:

- push: Adds an element to the top of the stack.
- pop: Removes and returns the top element.
- peek: Returns the top element without removing it.
- isEmpty: Checks if the stack is empty.

Files Involved:

- ArrayStack.java
- Operations\_on\_Stack.java

Functionality:

- ArrayStack is the core class that defines the stack using an array.
- Operations\_on\_Stack.java demonstrates the stack operations such as push, pop, peek, and checking if the stack is empty.

Sample Input and Output:

Stack Operations:

1. Push
2. Pop
3. Peek
4. Check if Empty
5. Exit

Enter your choice: 1

Enter an element to push: 10

Element pushed successfully.

Enter your choice: 1

Enter an element to push: 20

Element pushed successfully.

Enter your choice: 3

Top element: 20

Enter your choice: 2  
Popped element: 20

Enter your choice: 4  
Stack is not empty.

Enter your choice: 5  
Exiting...

## Requirements

- Java Development Kit (JDK) installed.
- Basic understanding of Java programming concepts.

## How to Run the Project

1. Clone the repository or download the project.
2. Compile the .java files:  
    `javac RemoveVowels.java`  
    `javac ArrayStack.java Operations_on_Stack.java`
3. Run the files:  
    `java RemoveVowels`  
    `java Operations_on_Stack`

## Author

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