Madan Bhandari Memorial College

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Practical Sheet

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Title: 2075 Question Solution

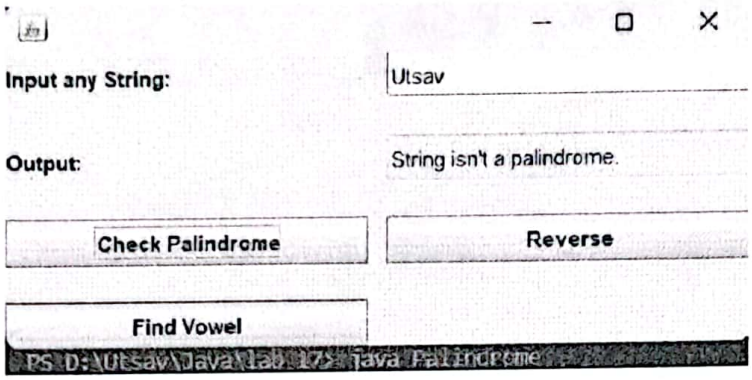
Design a GUI form using swing with a text field, a text label for displaying the input message "Input any String", and three buttons with caption Check Palindrome, Reverse, Find Vowels. Write a complete program for above scenario and for checking palindrome in first button, reverse it after clicking second button and extract the vowels from it after clicking third button.

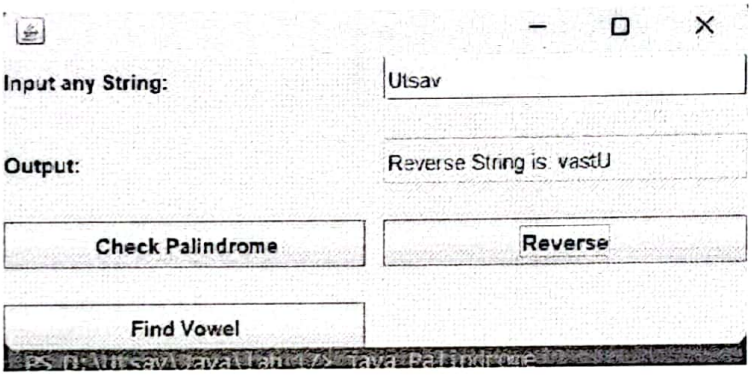
Code:

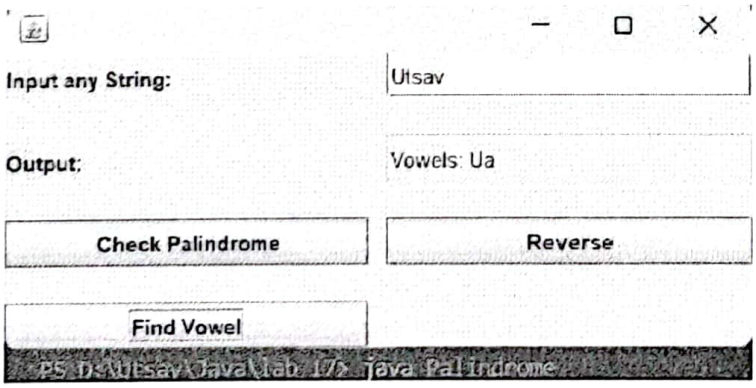
```
import javax.swing.*;
import java.awt.*;
import java.awt.event.ActionEvent;
import java.awt.event.ActionListener;
public class Palindrome extends JFrame
{
    public static void main (String[] args){
        Palindrome frame = new Palindrome();
        frame.setVisible(true);
    }
    public Palindrome(){
        setLayout(new GridLayout(4,1,10,20));
        JLabel inputLabel = new JLabel("Input any String:");
        JTextField inputTextField = new JTextField(20);
        add(inputLabel);
        add(inputTextField);
        JLabel outputLabel = new JLabel("Output:");
        JTextField outputTextField= new JTextField(20);
        add(outputLabel);
        add(outputTextField);
        outputTextField.setEditable(false);
```

```
JButton checkPalindromeButton = new JButton("Check Palindrome");
add(checkPalindromeButton);
JButton reverseButton = new JButton("Reverse");
add(reverseButton);
JButton findVowelButton = new JButton("find Vowel");
add(findVowelButton);
checkPalindromeButton.addActionListener(new ActionListener()
{
    @Override
    public void actionPerformed(ActionEvent e) {
        String copyUserInput = "";
        String userInput = inputTextField.getText();
        int length = userInput.length();
        for(int i = length - 1; i >= 0; i--) {
            copyUserInput = copyUserInput + userInput.charAt(i);
        }
        if(copyUserInput.equalsIgnoreCase(userInput)) {
            outputTextField.setText("String is palindrome.");
        }
        else {
            outputTextField.setText("String isn't a palindrome.");
        }
    }
});
reverseButton.addActionListener(new ActionListener()
{
    @Override
    public void actionPerformed(ActionEvent e) {
        String reverseUserInput = "";
        String userInput = inputTextField.getText();
        int length = userInput.length();
        for(int i = length - 1; i >= 0; i--) {
            reverseUserInput = reverseUserInput + userInput.
                                                charAt(i);
        }
        outputTextField.setText("Reverse String is: " + reverseUser
                                                    Input);
    }
});
```

```
findVowelButton.addActionListener(new ActionListener() {
    @Override
    public void actionPerformed(ActionEvent e) {
        char[] vowel = {'a', 'e', 'i', 'o', 'u', 'ʌ', 'ɛ', 'ɪ', 'ɔ', 'ʊ'};
        String userInput = inputTextField.getText();
        int length = userInput.length();
        char[] extractedVowel = new char[length];
        String showVowel = "";
        for(int i=0; i<=length-1; i++) {
            for(int j=0; j<=vowel.length-1; j++) {
                if(userInput.charAt(i)==vowel[j]) {
                    extractedVowel[i] = userInput.charAt(i);
                    showVowel = showVowel + String.valueOf
                    (extractedVowel[i]);
                }
            }
        }
        outputTextField.setText("Vowels: "+showVowel);
    }
});
pack();
setDefaultCloseOperation(EXIT_ON_CLOSE);
}
}
```


Input any String:
Utsav
Output:
String isn't a palindrome.
Check Palindrome
Reverse
Find Vowel
PS D:\Utsav\Java\lab 17> java Palindrome


Input any String:
Utsav
Output:
Reverse String is: vastU
Check Palindrome
Reverse
Find Vowel
PS D:\Utsav\Java\lab 17> java Palindrome


Input any String:
Utsav
Output:
Vowels: Ua
Check Palindrome
Reverse
Find Vowel
PS D:\Utsav\Java\lab 17> java Palindrome