Experiment No. 04
Experiment Name: Array And String

Course title: Programming Language II(Java) Lab
Course code:
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Submitted to-

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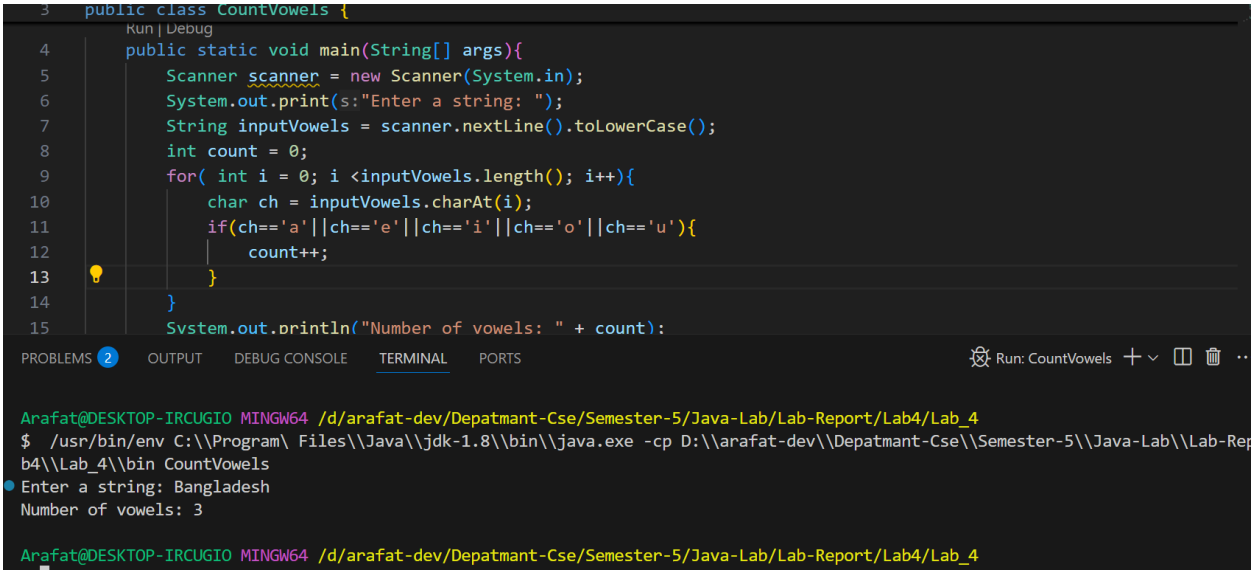
Hw 1: Write a Java program that accepts a stringfrom the user and counts how many vowels (a, e,i, o, u)are present in the given string.

Code:

```java
import java.util.Scanner;

public class CountVowels {
    public static void main(String[] args){
        Scanner scanner = new Scanner(System.in);
        System.out.print("Enter a string: ");
        String inputVowels = scanner.nextLine().toLowerCase();
        int count = 0;
        for( int i = 0; i <inputVowels.length(); i++){
            char ch = inputVowels.charAt(i);
            if(ch=='a'||ch=='e'||ch=='i'||ch=='o'||ch=='u'){
                count++;
            }
        }
        System.out.println("Number of vowels: " + count);
    }
}
```

Screenshot:



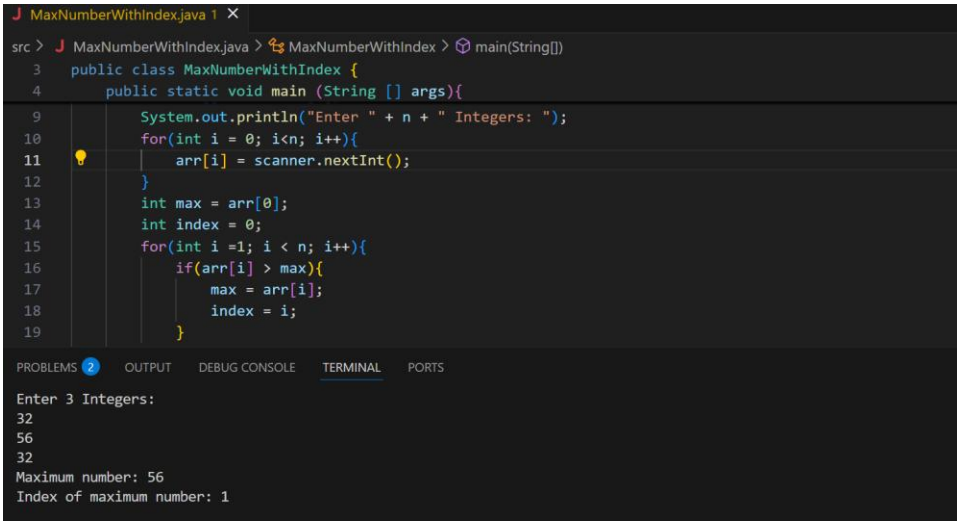
Hw 2: Write a Java program that accepts an array of integers from the user and prints the maximum number with its index.

Code:

```java
import java.util.Scanner;

public class MaxNumberWithIndex {
    public static void main (String [] args){
        Scanner scanner = new Scanner(System.in);
        System.out.print("Enter The Number of element: ");
        int n = scanner.nextInt();
        int arr[] = new int[n];
        System.out.println("Enter " + n + " Integers: ");
        for(int i = 0; i<n; i++){
            arr[i] = scanner.nextInt();
        }
        int max = arr[0];
        int index = 0;
        for(int i =1; i < n; i++){
            if(arr[i] > max){
                max = arr[i];
                index = i;
            }
        }
        System.out.println("Maximum number: " + max);
        System.out.println("Index of maximum number: " + index);
    }
}
```

Screenshot:



Hw 3: Write a Java program that accepts a string from the user and checks if it is a palindrome (reads the same forward and backward, ignoring case).

Code:

```java
import java.util.Scanner;

public class PalindromeCheck {
    public static void main(String[] args) {
        Scanner scanner = new Scanner(System.in);
        System.out.print("Enter a string: ");
        String original = scanner.nextLine();
        String input = original.toLowerCase();

        String reversed = "";
        for (int i = input.length() - 1; i >= 0; i--) {
            reversed += input.charAt(i);
        }

        if (input.equals(reversed)) {
            System.out.println(original + " is a palindrome.");
        } else {
            System.out.println(original + " is not a palindrome.");
        }
    }
}
```

Screenshot: